Editorial Comment

The experts discuss current problems

This month it has been our pleasure to attend a number of annual conventions at which experts from legal, governmental, technical, business, and packaging fields have discussed the problems which confront us today, from their point of view. The synopsis of their opinions is the widest and the most up to the minute report available for our guidance at this time. As such, a cross-section of their thinking is reported.

The most critical of materials, and you have already heard it from all sources, is paper. At the risk of being repetitious, we repeat again, and with emphasis, that if we are not to be stymied in our production, we must save, repackage, use lighter stock, be original, be clever. We must use every means to conserve paper at our disposal, and then invent new ones. The experts were so uniformly persistent on the subject that we must observe that for the next few months containers will be a very grave problem.

While not as serious as paper, products containers are never-the-less tight. Tin has been so drastically cut as to force many packers to use substitutes for their products. The resultant shift to glass, for example, has cut into the supply available to regular users. Production is at capacity, and is threatened by lack of adequately-trained personnel.

The gloomy picture is lightened by many improvements such as colors, some compounds, glycerine, etc., which indicate a trend toward easing the pressure on the manufacturer in the use of substitutes.

After the war we are to expect fierce competition, at narrow margins of profit, in an attempt on the part of manufacturers to hold a large part of the current business. He who does not adopt modern and progressive practices is apt to find himself out of business, or forced to go into a new field. New, more efficient machinery, developed through "know how" learned in war production, will be one means of enabling the progressive companies to cut overhead, and use the saving in productive channels.

the American Perfumer and ESSENTIAL OIL REVIEW

COSMETICS · SOAPS · FLAVORS

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desiderata

Comment on interesting new chemical developments and their application to cosmetics and toiletries.

by MAISON G. DENAVARRE

M. G. DeNavarre at work in his laboratory

CRITICISM

It has always been a source of mixed emotions, mostly bad, when I hear technical people tear apart the published work of others. They find so much that is wrong with what Smith or Jones or someone else wrote, but somehow they never know enough or they have never had enough backbone to write it themselves. Armchair strategists of a kind. You know the kind of people I mean.

I get my quota of unsigned fan letters that tell me what the B.S. stands for after my name along with a lot of other gems of similes. In fact, ten years ago it used to bother me. But now I'd miss these unsigned jewels of correspondence. They kind of keep me in my place.

But these aren't the people I have reference to. It is the people who say, for example, that Jones' article on lipstick is poor because it is *not thorough* or because Jones hasn't given the reader a douzey of a formula for the perfect lipstick, all tested and found serviceable. Such people say that Jones' work is *not specific* enough, that too many *generalities* are resorted to. Yet I wonder how many of these armchair critics would part with some of their hard earned knowledge? In this industry of several thousand manufacturers among whom there are about 500 that are worthwhile as to size, you can find about a dozen people who regularly contribute part of their knowledge for the general good of the industry. Some are suppliers, others technicians for cosmetic manufacturers and still others are consultants.

The general idea of a technical article is to summarize the work on the subject and to give the reader the benefit of the author's experience. The author, on the other hand, flatters his readers by assuming that they have a certain amount of ingenuity and can take a few strands of information and weave a fabric from it. But the readers who are so quick to criticize the article as unthorough, are either too dumb or too lazy. They want it on a platter, medium-rare with mushrooms and plenty of chili sauce, hard rolls and butter.

Let it be understood here that trade journal writers don't make a living from writing. It isn't like fiction in the *Saturday Evening Post* that pays from five cents a word upward. The people who write in trade journals feel bound by duty to contribute a share of their knowledge for the general good of the industry. Maybe they don't know all there is to know about a subject. But if everyone contributed something of what they know of the subject, there wouldn't be so much mystery for one thing, and so much duplication of effort for another thing.

I've had this on my mind a long time and it isn't about my own writings that I complain. I've become hardened to be littling compliments and grumbling from either jealous or loafing castigators. It is the newer writers that are coming to the fore that need encouragement instead of disparaging reproach. If new writers don't keep coming up, there will be darn little exchange of knowledge in the cosmetic industry. It wouldn't take long to get back to the middle ages of mystery and ignorance. So, be a little broadminded. Write to authors of technical articles. Pep them up with *helpful* criticism and we shall all be a bit wiser for it.

BULKING OF FACE POWDER

Some manufacturers watch the bulking density of their face powder pretty close, but some apparently don't pay much attention to it. Checking a few brands routinely not long ago as much as 50 per cent variation in one manufacturer's product was found. Also interesting was the finding that there existed about 100 per cent difference among eight popular brands. Now let someone tell me what is the *ideal* bulking density!

PRODUCTION CONTROL & ANALYSIS

A number of people have asked if they could buy the complete book of *Production Control & Analysis of Cosmetics*. A regular book will be published but will not be available until after the serialized version has run through the last chapter. The book will have the advantage that all pages will be consecutively numbered, the book will be indexed and the few printers' errors that have occurred will be corrected. The publisher's name will be announced in due course.

LEG MAKE-UP

It has been called to my attention that the inclusion of colloidal magnesium aluminum silicate in sus-

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pended powders tends to enhance suspension and application as well, a fact that I knew. But a method of using the silicate in the formula suggested by my critic certainly makes it easier to incorporate the ingredients. It is suggested that the gel be first diluted with water and mixed to uniformity before adding to the batch. It is easier to handle this way. Thanks very much Mister Reader. That is the kind of criticism wanted.

IRON IN ISOPROPYL ALCOHOL

Your attention is called to the fact that some isopropyl alcohol tends to contain more iron in it than ordinary SD alcohol. If you are using ingredients that are sensitive to iron, watch out. Some of the sensitivities are the phenols, phenolic derivatives, anthranilates, para-aminobenzoates, oxy-quinoline, tannates and gallates. In some cases the iron can cause considerable oxidation by catalysis. Apparently not all isopropyl alcohol is this way, but some of it is. Check yours.

ISOPROPYL DEODORIZER

From out of the sticks comes a new deodorizer for isopropyl alcohol. It contributes nothing to the odor itself. After it is in the isopropyl alcohol for a few days, that characteristic ethereal odor of isopropyl has disappeared. Only by warming to about 100°F could you detect the isopropyl odor and that by sticking your nose practically in the bottle. This is one of the best if not the best blending deodorizers I have seen. When you try it, however, give it a chance to blend a few days, longer if possible. You will be very pleasantly surprised.

CAMOUFLAGE

Anyone that fooled with the Army formula for facial camouflage has cussed plenty. Some swore because the ingredients didn't go together. That is a lot of boloney because they do. Casting the stick was and is one helluva casting job. Everyone says that it leaves a hole down the middle when it cools. To which can be said —maybe yes and maybe no. I've seen some that had no holes—in production, too. Some have said it couldn't be done on a production basis. It has been done. But brother it sure has been one dickens of a research job. Color dispersion, proper tint, melting point, stability and a mess of other requirements. They have all been met—in production, too. If you are one that couldn't meet them, try again. It can be done.

Questions and Answers

503 BOOKLET ON LIPSTICKS

Q: *We are manufacturing a lipstick that we would like to have more indelible. Can you supply us with a good lipstick formula or a publication on lipstick? We are also interested in obtaining a double boiler for keeping lipstick at an even temperature before filling.* B. B.—WISCONSIN

A: There was a small booklet published on the subject of lipsticks in 1934 entitled, "Lippenstifte und Augenbraunstifte," by Carl Becher. Naturally the book is not available, but you may find it at your Public Library or at the Department of Agriculture Library, Washington 25, D. C. This book describes European formulation only. In deNavarre's book, which you have just purchased, you will find more recent types of formulations that you may use as a start for further experimentation. Under separate cover, we have sent you the name of the manufacturer of a double boiler in which you are interested.

CORRUGATED BOXES

Drug and grocery stores are still burning up a lot of corrugated boxes that could be used and re-used. They tell me that from time to time someone asks for the boxes to be saved, but never shows up to get the boxes. Since they constitute a fire hazard to the stores, they don't care to hold them more than a week. In addition, boxes take up a lot of badly needed space.

Drug stores complain that wholesale houses are still cutting the boxes around the edges as has been their custom for many years. That makes it hard to re-use the box. Why not a little heart-to-heart talk with your wholesaler on the subject.

Each corner drug and grocery store can yield about 25 corrugated cartons a week of different sizes. Many are very good for re-use a number of times. They also have substantial quantities of shredded paper and excelsior. Are you overlooking this source of containers?

504 COLD WAVING PROCESS

Q: *I would appreciate it if you would furnish me with formulas for cold waving solutions and also advise the use of thioglycollates in these solutions.* A. A.—INDIANA

A: Various thioglycollates are used in the cold waving process. Either the thioglycollates in concentrated form or the diluted solution can be bought for your use. The name of several suppliers is being sent to you under separate cover. These suppliers will tell you how to use their product, but if they do not, you will have to work out a process for yourself. This essentially consists of washing the hair clean, making a test curl, then curling the entire head by a direct application of the cold waving solution, neutralizing the solution with an acid solution of peroxide or a similar acting mixture, then rinsing the hair and setting it in the usual way.

505 MILKY BRILLIANTINE

Q: *I have experimented with many formulas but have not been successful in producing a milky brilliantine. Most of the trouble has been that the formula separated after standing. I hope you can give me a satisfactory formula. I am also interested in manufacturing a liquid shampoo of milky appearance.* M. C.—LOUISIANA

A: We are not sure of what you have in mind in the way of a milky brilliantine, unless you refer to the very successful hair dressing being sold in emulsified form. Naturally we cannot give you the formula for this product even if we knew it because it is not the policy of the AMERICAN PERFUMER to do so. We are sending you the names of sources of supply for ingredients that might be used in such a product and suggest you have the supplier give you any additional information on his particular product. A shampoo can be made by starting with an ordinary shaving cream and diluting it with water or sodium alginate mucilage to a concentration of 20% anhydrous soap.

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Technical Abstracts from Scientific Literature

These brief abstracts listed provide a convenient key to current scientific literature of the world on perfumes, cosmetics, toilet preparations, soaps and dentifrices

Vitamins for gray hair. J. J. Eller and L. A. Diaz, *New York State J. Med.* **43**; *1331 (15) 1943.* Eller and Diaz treated with paraaminobenzoic acid (100 mg. three or four times a day for periods ranging from three to five months) 88 persons of different ages and sexes in various stages of achromotrichia. In only 1 case has there been a definite darkening of all the hair of the scalp and mustache. Consequently, they consider that this method of treatment needs further investigation before it is offered to the public as a "cure" for gray hair. (Through *Arch. Derm. & Syp.* **49**, *63, 1944.*)

Antiseptic and Germicidal Paints. D. H. Hewitt, *Paint Manuf.* **13**, *290-2 (1943).* Antiseptic paints are so formulated as not to allow bacteria to multiply upon their films while germicidal paints have lethal action toward bacteria. Biological activity in paints may be of two kinds, aiming either to prevent development of organisms on the material of the paint film or to diffuse a principle which will be active at a distance. Fungicidal paints belong to the first group and insecticidal paints to the latter. The difficulties and problems of producing a paint effective against a maximum number of bacteria and the question of evolving reliable and convincing methods of testing bactericidal potency are noted. (Through *C. A.* **38**, *1382, 1944.*)

Aqueous thickening solutions suitable for use with cosmetics and other products. U. S. 2,321,270. A water-soluble alkyl cellulose, such as methylcellulose, or a water-soluble hydroxy alkyl cellulose is used with a thickening agent which may be 0.1-2% of a water-soluble sodium salt of a dibutylphenylphenoldisulfonate or other water-soluble metal salt of an alkylated phenylphenolpolysulfonate in which the alkyl group contains less than 10 C atoms, such thickened solutions being suitable for use as thickeners in various pharmaceutical, cosmetic, coating or printing compositions. (Through *C. A.* **37**, *6824-25-26, 1943.*)

The Chemistry of Odor. L. Blas. *Mon. farm.* **49**, *135-9 (1943).* An attempt is made to show a relationship between chemical composition and definite odors. (Through *C. A.* **38**, *1254, 1944.*)

Glycerol Substitutes. A. Burgin. Pharm. *Acta Helv.* **18**, *186-202 (1943).* Substitutes of similar constitution such as the glycols, tetritols, hexitols, derivatives of mannitol and sorbitol with higher fatty acids, glycerogens and sugars are discussed as to preparation, composition, physical and chemical properties, uses and toxicities. Organic and inorganic salt solutions alone and with additions such as magnesium and calcium chlorides, sodium lactate, calcium lactate, plant mucilages, alkyl celluloses and amines are reviewed and their possibilities discussed. (Through *C. A.* **38**, *1320, 1944.*)

Wax Substitutes. By C. S. Glickman. *Chem. Ind.*, **53**, *496, 1943.* In discussing the problem of wax substitutes and replacements, the author states that it may be divided into two broad classes, viz., chemical syntheses and compounding (blending). Under syntheses is listed: (1.) Friedel-Crafts reactions and Grignard reactions. (2.) Oxidation reactions. (3.) Chlorination reactions. (4.) Hydrogenation reactions. (5.) Esterification reactions. Under compounding there are the following possibilities: (1.) Mixtures of natural waxes. (2.) Mixtures of natural waxes and natural resins. (3.) Mixtures of natural waxes and synthetic resins. (4.) Mixtures of natural waxes and cellulose ethers. There is also the formation of highly complex physicochemical aggregates which exhibit unusual and valuable waxlike properties because of their heterogeneous colloidal structure. These compounds derive from the interreaction of natural waxes and organo-metallic compounds under certain prescribed conditions. A method is described for evaluating these substitute or replacement waxes by means of crystallization curves. These curves are prepared by dissolving known amounts of the wax in a solvent, normal heptane, and allowing them to crystallize. The percentage of wax is plotted against the first observable crystallization point and the latter indicated as temperature. It has been found that compounds having curves quite similar to that of a known natural wax have other properties similar and is therefore useful in determining the efficiency or performance of a synthetic. A recent development in wax technology is the use of ethyl cellulose. Its use offers a ready and simple means of increasing the hardness and decreasing the crystallinity of synthetic mixtures if such additions are warranted by the nature of the finished product. A product (M.P. 78°C.), suitable for leather polish manufacture, can be obtained by treating beeswax with a small amount of litharge and red lead for about one-half hour at 225°C. (Through *J. Am. Leather Chem. Assoc.* **39**, *150, 1944.*)

Antioxidant for fats and oils. U. S. Pat. 2,333,658. A composition of matter comprises an oleaginous material in which is included a small amount of a hemuronic acid and a cyclic oxy compound selected from the group consisting of quinones, hydroquinones, naphthoquinones, naphthols, naphthohydroquinones, chromans, chromens, coumarones, and coumarans. (Through *Oil & Soap* **21**, *63, 1944.*)

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Glycerine in Newer Cosmetic Materials

An authority discusses the characteristics and uses of glycerine . . . Its employment in newer finished products . . . Followed by bibliography for future reference

by GEORGIA LEFFINGWELL, PH.D.

THAT glycerine is a major essential in the production of cosmetics is fully apparent to those who, because this fluid was diverted to war uses, had to curtail its employment in their own products. Fortunately this situation has currently taken a decided turn for the better, and glycerine is again available in substantial quantities for cosmetic manufacture use.[1]

Because so much interest has been focused on glycerine during the past months, most cosmetic technicians are familiar with the properties which make it so valuable in beauty preparations and related products. However, even at the risk of appearing repetitious, it may be worth while to review briefly the characteristics and uses which make glycerine helpful in so many ways. These, as presented by Merrill,[2] at the 1943 T.G.A. meeting, are as follows: (a) as a humectant; (b) as a vehicle; (c) as a solvent; (d) as a sweetening agent; (e) as an emollient; (f) as a reactive material; (g) as a lubricant; (h) as a softening agent; (i) as a penetrant; and (j) as an anti-freezing agent. To this might well have been added the fact that glycerine is completely or entirely free of toxic effects.

This list, while not complete, offers a good explanation why no completely supplementary substitute has been developed. While it is true that some substances or combinations of substances have duplicated individual properties of glycerine, the all-over characteristics of this valuable material cannot be reproduced. This is a fact established, not only by authoritative American research,[2,3,4] but also by extensive British investigations.[5] Nor can one overlook the fact that the government has found it necessary to issue a warning concerning the use of certain toxic substances suggested as substitutes for glycerine.[6]

The characteristics and properties inherent in glycerine also help to explain its very extensive and highly varied uses in cosmetic formulation. Anyone who has watched the progress in cosmetic research during the last four or five years cannot help but be impressed by the fact that, as new materials are developed for or adopted to cosmetic use, glycerine has found concurrent and valuable use to improve or impart certain desirable characteristics.

Thus, back in 1938, when sodium alginate, a derivative of seaweed, was being advocated for use as a cosmetic raw material, it became clearly evident that glycerine was a valuable conjunct aid in the formulation of wave sets, dentifrices, hand lotions and the like. Indeed, according to Bergy,[7] glycerine is useful in the preparation of the sodium alginate solutions. He advises that to prepare such solutions, the algin be added in a thin stream to either hot or cold water with constant stirring. To avoid clotting it is advisable to wet the sodium alginate with glycerine before adding to the water.

An illustration of glycerine's usage in connection with this material is offered in Jannaway's[8] formula for a greaseless hair pomade:

A:	Sodium alginate	2.5
	Distilled water	100.0
	Perfume	1.0
	Glycerine	5.0
	Parahydroxybenzoic acid ester	0.25
B:	Calcium citrate	0.2
	Distilled water	90.0

Solution A is prepared by dissolving the alginate and preservative in the water, to which is added the perfume and glycerine. In part B, the citrate is stirred with 90 Gm. of water and then mixed with Solution A. Allow to stand for two hours to permit complete thickening.

Glycerine has also found many uses in formulas utilizing methyl cellulose. Methyl cellulose is neutral; resistant to acids, alkalies and bacteria; is innocuous, and forms mucilages which may take the place of the vegetable gum mucilages. It may be used to prepare emulsions of the o/w variety.[9] Glycerine has found extensive use with these materials in the formulation of dentifrices, depilatories, dermal creams, emollient creams, cleansing creams and similar preparations.[10, 11, 12] A typical glycerine-utilizing matt skin cream base on methyl cellulose, given by Valence,[13] is as follows:

	GM.
Stearic acid, triple pressed	9.5
Cetyl alcohol	0.5
Mineral oil	2.0
Groundnut oil	2.5
Methyl cellulose solution (4%)	25.0
Glycerine	5.0
Borax	0.5
Ammonia (0.97)	1.0
Perfume oil	0.5
Distilled water	53.5

Lanette Wax SX, introduced as a cosmetic material by British workers, is a more recent and very interesting

material that frequently finds advantageous usage for glycerine in the formulation of cold creams of the matt cream type, day creams, night creams, baby creams, stocking simulating creams, etc.[9, 14, 15] Lanette Wax SX, as now standardized, is a partially sulfated or phosphated mixture of cetyl and stearyl alcohols. It is a notably useful cosmetic material in that it comprises not only a valuable base but also an emulsifying agent producing neutral and extremely stable emulsions. Typical of the use of glycerine in conjunction with this whitish wax is the following simple day cream formula suggested by Allen:[14]

Lanette Wax SX	15 parts
Glycerine	7 parts
Water	78 parts

This cream can form the base for the now so popular stocking-simulating creams. The following formula has been suggested as a basis for experiment:[14]

Lanette Wax SX vanishing (day) cream	62 parts
Gum solution (tragacanth, Karaya, etc.)	2 parts
Titanium dioxide	1 part
China clay, colloidal	3 parts
Face powder base (sun tan, etc.)	12 parts
Glycerine	5 parts
Water	15 parts

Pectin, now a member of the official family of pharmaceutical materials, was long recognized as having many potentialities in the cosmetic field for the preparation of hair setting lotions, hair creams, non-fatty face creams, skin lotions, dentifrices.[13, 16, 17] In most of its uses, both pharmaceutical and cosmetic, glycerine is a standard adjunct to the pectic material. Illustrative is Goodman's[18] formula for a pectin hair pomade:

Pectin	1
Glycerine	4
Water, to make	100

Bentonite, the colloidal clay with so many actual and potential uses, finds increasing usage in cosmetic manufacture for the production of beauty masks and packs, creams, manicure preparations, liquid powders, dentifrices, and other cosmetic products.[13, 19, 20, 21, 22] Glycerine finds many uses in conjunction with this interesting natural product. A case in point is offered in Glenn's[23] formula for a liquid powder:

Colloidal kaolin	7
Titanium dioxide	5
Bentonite	5
Water	78
Glycerine	5
Pigment or color	sufficient

Products based upon inert gelatinous alumina and similar compounds offer many interesting possibilities in the field of cosmetics but do not seem to have been exploited to any great extent in the United States. In England, according to Vallence,[13] gelatinous alumina has been used as bacterial-resistant, non-frothing, versatile emulsifying agent. He considers it very promising as a base for hair fixatives and face packs in paste form. A product that has been used in the production of calamine creams, of the type useful as an acne cream or as a foundation for women with very greasy skins, is made from:

	GMS.
Calamine, sifted	8
Colloidal kaolin	2
Zinc oxide	10
Groundnut oil	25
Glycerine	10
Inert gelatinous alumina	35
Distilled water	80-100

The emulsifier is dispersed in the water, followed by the glycerine and oil. Heat gently, mix and homogenize. Then mill in the mixed powders.

Alumina hydrogel forms the basis of a patented process[24] for making ointment and cosmetic bases, especially astringent deodorant and antiperspirant preparations. Claimed to provide a non-irritating, non-hardening unguent-like material that may readily be adjusted to the required pH, specific directions are given for forming a special aluminum hydroxide precipitate and mixing this product with a hygroscopic agent such as glycerine. This addition serves both as a plasticizing agent and as a solvent for the medicinal, coloring and perfuming materials. An example of a typical astringent and deodorant as given in the patent, is as follows:

	GM
Alumina hydrogel	100
Glycerine	25-60
Benzoic acid	1
Zinc oxide	1
Perfume and color	sufficient

COSMETIC STOCKINGS

Turning now from glycerine usage in conjunction with new raw materials to this fluid's employment in newer finished products, it is found that as advances are made in the field of cosmetics, glycerine keeps pace with progress. This is quite apparent, for example, in the formulation of cosmetic stockings. An inevitable development because of the comfort and freedom offered by these stocking-simulating preparations, the war-born shortage of silk and nylon for hosiery has greatly stimulated the popularity of this new type of product. Cosmetic authorities,[25, 26, 27] in both this country and England, who have made a study of these products agree that glycerine in these products definitely helps, its presence affording not only an emollient effect and slight luster, but also imparting requisite flexibility to the film. Many formulas for cosmetic stockings in liquid powder, lotion and cream forms that take advantage of these qualities are available in both the technical and patent literature. Redgrove,[27] for example, after the study of a rather complex commercial preparation, evolved the following satisfactory formula:

Liquid paraffin	1 per cent by wt.
Glyceryl monostearate (containing a trace of soap)	6 " " " "
Distilled water	48 " " " "
Glycerine	15 " " " "
Titanium dioxide plus earth pigments	21 " " " "
Talc	9 " " " "
Perfume	sufficient

In his article, this British authority also presented glycerine-containing formulas for making a liquid powder and lotion for cosmetic stockings.

Kalish's[25] extensive study of the subject likewise indicates the role of glycerine in these products. One of his representative compositions in which the use of newer cosmetic materials is quite apparent, is as follows:

Precipitated chalk	10.0
Talc	5.0
Titanium dioxide	3.0
Bentonite	2.0
Alcohol	8.0
Glycerine	3.0
Wetting agent	0.5
Methyl cellulose	0.5
Water	68.0
Dye and pigment	sufficient

The patent literature is also represented. In his discussion on cosmetic stockings, deNavarre[28] cites a British patent *(433,142)* in which the following formula is given:

Zinc stearate	3.8 parts
Undecylic acid	02. "
Titanium dioxide	8.0 "
Talc	10.5 "
Glycerine	6.0 "
Distilled water and perfume, to make	100.0 "

In deNavarre's opinion, the covering powder of this product is too high, but this can readily be remedied. The use of the undecylic acid

and zinc stearate affords the desired waterproofing effect.

Newer make-up foundations and powder bases continue to utilize the advantageous properties of glycerine. Thus, a foundation for make-up, based upon glyceryl monostearate (itself a glycerine derivative) contains:[29]

Glyceryl monostearate	20.0
Spermaceti	5.0
Glycerine	5.0
Pigment	3.0
Perfume	0.5
Preservative	0.1
Water	66.4

HAIR PREPARATIONS

Hair preparations of many types use glycerine as a standard component and as newer products are suggested this fluid continues to be advocated as an essential ingredient. Thus, Vallence,[30] in a consideration of post-war hair preparations, gave the following typical formula as an example of a non-greasy hair cream or brilliantine:

	GM
Gum tragacanth	1.0
Tincture of benzoin	2.0
Castor oil	1.5
Glycerine	3.5
Mineral oil	6.0
Industrial spirit	4.0
Perfume	0.4
Formaldehyde	0.1
Water	81.5

Considerable research has gone into improved shaving preparations of many types during recent years. The development of newer and better products in this men's cosmetics field has also seen increased use for glycerine. Rather novel is a British patent[31] for making a depilatory-shave product which in its final form is a stone-like block containing depilatory or hair softening ingredients.

For shaving, the beard is first moistened and the shaped product rubbed over the moistened beard which, although the use of the product does not produce a lather, can then be shaved off with a razor in the ordinary way. No shaving soap or similar compound is needed when this product is used. Although glycerine is not absolutely essential, the patent states that its inclusion is desirable because it produces an agreeable emollient effect on the skin.

Electric shaving devices are presumed to be sufficient in themselves to give a satisfactory shave. Nonetheless, it has very often been found that for persons with a tender skin, a tough beard or both, an after-shave lotion is quite desirable—especially during the early breaking-in stage. To meet this requirement Hooper[32] has suggested the following electric razor after-shave lotion:

Liquid extract of witch hazel	2 fl. oz.
Glycerine	1 fl. oz.
Industrial spirit	½ fl. oz.
Rose water	4 fl. oz.

If required, two grains of menthol may be added to this formula.

Cosmetic cleansing pads, which started off with such promise a few years ago, are but little mentioned today. Just for the record, it is interesting to note that glycerine has been a regular ingredient of the fluids used to impregnate the cloth pads. A typical clear lotion for such impregnating fluids, given by Maiki,[33] is as follows:

Glycerine	5 per cent
Alcohol	5 " "
Detergent	1 " "
Water	89 " "
Preservative and perfume	sufficient

Milky emulsified lotions for this purpose also contained glycerine as an essential ingredient.[33, 34, 35]

Growing awareness of the importance of pH in preparations for use on the skin has led to the development of acid creams and other cosmetic preparations. That glycerine plays a continued important role in such preparations is evident from the pioneering work of both Harry[36] and Jannaway.[37] A typical acid cream, as presented by the latter investigator, is as follows:

Glycol distearate, pure	14.0
Mineral oil	3.0
Beeswax, white	2.0
Ceresin	1.0
Lanolin	1.0
Sodium lauryl sulfate	1.0
Pectin, citrus	0.5
Perfume	0.5
Citric acid	2.0
Glycerine	6.0
Distilled water	69.0

From the foregoing brief review, which touched only a few of the highlights of recent cosmetic developments, it becomes quite evident that glycerine remains a basic ingredient of the beauty product industry. Continued development further confirms this fact.

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Every consideration should be given to conservation of paper and paperboard in packaging. The primary purpose of a container being to carry the product to the consumer in a useable condition, it is suggested that one eliminate all unnecessary and superfluous uses. Use stickers, posters, labels, etc., to urge your customers or distributors to save the shipping cartons. It might be advisable to indicate the best method to be employed in opening containers. A small sticker placed on your shipping carton advising the recipient to save the container, advising to flatten out, store, and return to shipper or sell to used container dealers will soon develop a sound salvage and re-use program for this critical material. Any voluntary elimination of wasteful practices in packaging will make available, for necessary packaging, whatever paper is thus saved.

T.G.A. Convention Discusses Post-War Plans

Seriousness of paperboard and container situation outlined . . . Foreign trade promises to be just as favorable for the small manufacturer as for the big business man . . . Election of officers

DUE to wartime exigencies and overcrowded hotels, the 9th annual meeting of the Toilet Goods Association was held without entertainment or frills on May 18 and 19, at the Waldorf-Astoria in New York City. The two day sessions were devoted to general business, while the night meeting pertained to matters of interest in the Scientific Section.

WAR PRODUCTION BOARD

Elmer B. Tysdal, the newly appointed chief of the cosmetic unit, of the War Production Board, opened the Thursday morning meeting with a discussion on the activities of the War Production Board in the toilet goods industry. He indicated that there is little likelihood of relaxing restrictions on glass containers L-103-b, or metal containers M-81. There is apt to be no change in the collapsible tube situation, M-115. Restrictions have been removed from glycerine. There should be sufficient peppermint now available to take care of the industry. The picture on lanolin has been improved, partially because two new mills have been opened for wool oil recovery. The alcohol situation is critical, which is also true of isopropyl alcohol to an almost equal extent. No increase of cellulose acetate is anticipated over the current schedule.

PAPERBOARD SITUATION

The paper situation is serious, according to F. J. Solon, chairman, Packaging Committee, W.P.B. One reason for the uncertain outlook is that military requirements themselves are uncertain, and naturally are of primary interest in allocation of the material. Pulp production is high and promises to be even higher. This is caused by more men being sent into forests, and more heavy equipment being released for this work. At the present time civilian shortages of 20 to 25 per cent are common.

A radio program, directed at the housewife, is shortly to get under way in an effort to have her increase the saving of brown stock. This is necessary for crossing with newspapers and magazines for the production of kraft paper.

Some means whereby cartons may be given an increase over their present two to five trips are—use sealing tape, stock wiring, and the use of metal binding, to prevent destruction of the box in opening.

Shipping containers will remain critically short for at least five months.

POST-WAR FOREIGN TRADE

There will be a tremendous economical upheaval all over the world, and an uncertain transitory period, following the end of the war. H. B. McCoy, chief of the Industrial Economy Division, Bureau of Foreign and Domestic Commerce, intimates that our foreign policy respecting the toilet goods field, has not yet been set, but has made much more progress than most people realize.

We are building a banking, communications and transportation system which will function efficiently, when the time comes to put it to use. We will come out of this war the strongest nation in commerce the world has ever known, and part of this strength will be evidenced in the increase of toilet goods.

Before the war, less than 2 per cent of our production in this field went into export. This will increase, partially because we will be doing more buying abroad. South America will be in a particularly good position, because it has been building up its position as a creditor territory through the sale of food and materials to other warring nations.

The post-war opportunities will be just as favorable for small manufacturers as for the large ones, some of whom are already established. Newcomers should investigate thoroughly before going into the foreign market, but once established should follow the pattern consistently. Steps which have been tried, and found to be sound, in building a business in the United States, will be just as practical in opening up new markets abroad.

The Department of Commerce has done a great deal of research and is anxious to cooperate to the fullest of its ability with newcomers who anticipate going into the foreign market.

OPA REGULATIONS

Robert G. Deupree, head of the Drug and Cosmetic Unit, O.P.A., does not anticipate further regimenta-

F. J. Solon

Gert Keller, Frederick F. Rauch, Harald R. Topken, B. G. Wirsing

Lee Lisser, Bud Keeley, Harold Brodrick, Joseph Huisking, J. A. Danilek, F. Cleary, W. Conklin, C. Rocherolle, J. Henshaw

A. L. van Ameringen

A. J. Laverty

Francis Chilson

Dr. and Mrs. A. M. Hansen

tion as no further changes are contemplated.

Prospects now are that O.P.A. will be renewed for at least another year, and in all probability will be maintained for some time after the war's end to avoid inflation.

PRESIDENT BROOKS' REPORT

Herman L. Brooks, president of the Association, spoke of anticipating startling package designs after the war, through the use of new materials. He discussed the Association's activities, and the benefits afforded to members, as evidenced in trade bulletins, assistance rendered by the Scientific Section, reduction of excise tax from the proposed 25 per cent to 20 per cent, the "trading post" exchange bureau, Industry Advisory Committee on W.P.B. and O.P.A., and state legislation and simplified practice recommendations.

He recommended the establishment of an annual package design award, to be given to the manufacturer who merited it, and to be known as the Charles S. Welch Award. He further recommended the formation of a foundation for pharmaceutical education in an effort to overcome the present shortage of pharmacists.

His talk was forthright and full of courage in the future.

POST-WAR COMPETITION

Hugo Mock, counsel for the Association, predicted that post-war competition would be much more fierce than is generally realized, and that profits would be cut materially. The value of the merchandise will be more productive of sales than will advertising and sales methods.

BOARD OF STANDARDS

The director of the Board of Standards, H. D. Goulden, urged all members to submit labels, as well as copy for radio and other types of advertising to the Board for review before release. He emphasized that files and information are kept in strict confidence.

The Board has found it necessary to meet less often because the "substitutes problem" has become more stabilized, thus it can devote its time to other productive activities.

Scientific Section

TETRABROMOFLORESCEIN

The action of various solvents in taking up the dye, tetrabromoflorescein, for use in lipsticks, was discussed by Dr. Henri Coutinho, president of the Perfumes Manufacturing Corporation. In his researches with the various solvents, the feature of each responsible for the action was carefully charted. An interesting conclusion was arrived at by building a hypothetical solvent, which incorporated the desirable features of the various solvents, as a reagent whose reaction with the dye would reach the optimum.

Dentifrices and mouth washes do have some action in preventing caries,

Rene Forster, Henri Costerg, Berk Valerius

H. D. Goulden, Herman Brooks, J. Blaine Walker, Michael Lemmermeyer, Karl Voss, LeRoy Root

Paul Douglas and H. B. McCoy

William Lakritz, Mrs. Charles Senior, Dr. Alexander Katz

W. Van Alan Clark, Miriam Gibson A. E. Mullen

Gertrude Brows, Joseph Leshin, R. Schuler, Julien Bellot, Genevieve Crowley

Mr. and Mrs. Alois von Isakovics, Mrs. Warren M. Curry, A. C. Bromberg

Edwin Booth, George B: Livesay, J. H. R. Stephenson

Clair E. Voorhees, Mabel Oglve, Jack Clara Ogilvie

Mrs. E. N. Rowell and Ross White

Arthur Jordan and Mr. and Mrs. Alfred Woititz

according to Dr. L. S. Fosdick, Professor of Chemistry, Northwestern University. However, the chief cause of decay is the series of very short acidulations followed by a slow neutralization to normal pH mouth conditions. The sharp acid rises are caused by ingestion of carbohydrates.

In theory it is possible to eliminate caries completely in 90 per cent of people through diet control, but this is not practical. A mouth wash, or even plain water, used with force immediately after eating may materially cut down cavities.

COLORS IN COSMETICS

Edward P. Morrish, of the American Home Products Corporation, pointed out three features of importance in color selection; they are brilliance, hue and chrome.

He recommends using a natural north light, free from outside color influence. If artificial light is used it should be constant, that is of the same intensity, with the light coming in at an angle of 45 degrees, and the observer viewing the object from a vertical position. Color chips, a color card, or a sample may be used as a standard color.

The two worst offenders in color fading are heat and sunlight, although oxidation, reduction, absorption into caps, hydrolysis, bacteria and enzymes, may also be responsible.

PHARMACOLOGICAL DATA

In arriving at final pharmacological conclusions, according to Dr. O. S. Gibbs, director of Medical Research, Plough, Inc., the scientist must always subject the tools used, such as mathematics, to the data it is designed to process.

In biological matters data obtained by experimentation is only the first step in pharmacological analysis; the best procedure is to prepare a tracing of the entire picture involved, and apply this over the observed results.

He emphasized that there is no substitute for experimental pharmacological studies, nor for the pharmacologists who conduct them.

ADVISORY COMMITTEE

In reporting on the activities of the Scientific Advisory Committee Dr. E. C. Merrill, assistant vice-president of the United Drug Company, rounded out the work of the committee during the year.

Due to the acute alcohol situation, study was given to the reduction of alcohol in various classes of products, which resulted in the desired reduction in certain instances.

Many products were surveyed to act as substitutes for glycerine. Progress was made to a point where it became apparent that certain materials would fulfil, at least in part, certain properties common to glycerine.

No completely satisfactory substitute for lanolin was discovered, but such possibilities as were discussed became general information to the association.

Titanium dioxide, about which little had been known, became a subject for discussion and emerged as a fairly well defined material.

Methods for determining the bulk density of many dry powders such as chalk, talc, titanium dioxide, etc., have been worked out and found to be of importance and value for control operations.

Consideration is being directed to methods for consistency of creams and dentifrices, viscosity of gum solutions, and grit in powders and creams.

POST-WAR PRODUCTION

Francis Chilson, consulting engineer, got the second day of the convention under way with a talk on post-war production problems. He approached his subject from the viewpoint of housing, and of equipment.

The building in which the manufacturer's plant is housed is of primary importance, as it affects handling costs, personnel, flexibility and quality of the finished product. As a primary factor in production costs it should be looked upon as a machine, and in keeping down operating costs it allows money saved to be devoted to advertising, or other productive channels. Experience dictates that the most effective plant is one designed as a one or two-story building, depending on the type of product manufactured.

No new equipment may be expected for two or three years after the end of the war. However, when it is available, experience gained through war work on the part of the manufacturers will benefit the cosmetic industry. For example, powder and rouge packaging machines will be greatly improved. Machines will combine operations in certain instances. More severe competition will necessitate a cut in costs, so more extensive use of machinery may be expected.

ESSENTIAL OILS

Francis T. Dodge, president of Dodge & Olcott Company, New York, N. Y., spoke on the position of essential oils immediately prior to the outbreak of the war in Europe, subsequent development, and forecast for the future. This talk, as an article, is reported elsewhere in this issue.

AROMATIC CHEMICALS

According to A. L. van Ameringen, president, van Ameringen-Haebler, Inc., the aromatic chemicals industry is much more highly mechanized in the United States than it is abroad. This is required because of high labor costs here. This condition has been a handicap to our industry under present conditions because of its inability to get new machinery, or replacements for machinery now in use.

Both essential oils and chemicals used in the manufacture of aromatic chemicals are very scarce, and in

some cases non-existent. Substitutes have been used in these instances, but even so production has been hindered.

Personnel has been a real problem. Women have not been found satisfactory, except in laboratory work, and the War Labor Board has not thought that the industry is an essential one in allowing replacements of men taken out of jobs. The situation is acute.

Due to the absence of many essentials oils; the mechanical and labor difficulties, the aromatic chemical industry is falling behind in production, and will continue to do so.

GOVERNMENT-OWNED SURPLUS

Col. R. P. Kuhn, U.S.A., explained that Army post exchanges are run at cost, except for a small per cent, which is set aside for liquidation and unforeseeables. The Army, in planning for the disposal of surplus commodities, has outlined a standard procedure (circular 57) whereby any merchandise not otherwise disposed of is to be sold through centers to be established in metropolitan areas. Three such centers are now in existence.

The standard practice in disposal of merchandise is to offer the material to other post exchanges, then other governmental agencies, next to original vendors at cost, and as a final step, is sent to one of the three centers.

He emphasized that brand names will not be "dumped," and that manufacturers should have no fear from this source.

Luncheon speakers were: Earl Godwin, who gave an off-the-record view of the Washington scene, and A. H. Motley, publisher, *American Magazine*, who stated that products of outstanding merit would not be enough in post-war planning. The products must be sold to the public. This sales effort must be more thorough than ever before. A really thorough training system is needed to make good salesmen, but good training is not enough—spirit and indoctrination are also necessary.

OFFICERS RE-ELECTED

Officers re-elected were: president, H. L. Brooks, of Coty, Inc.; first vice-president, William M. Bristol, Jr., of Bristol-Myers Company; second vice-president, Paul H. Douglas, of Bourjois; third vice-president, H. P. Willats, of Colonial Dames; treasurer, Paul F. Vallee; secretary, Joseph A. Danilek, of Lehn & Fink Products Company; executive secretary, S. L. Mayham; counsel, Hugo Mock; director, Board of Standards, H. D. Goulden.

Newly created officers were: Chairman of the Scientific Section, J. Williams, Allied Products; vice-chairman, Dr. K. L. Russell, Colgate-Palmolive Peet Company.

Those members of the association who are to be credited with the smooth proceedings of the convention were: L. R. Root, chairman; A. C. Burgund, Charles Fishbeck, P. E. Haebler, W. E. Klaas, M. Lemmermeyer, M. F. Martin, W. P. Murray, Karl Voss and J. Blaine Walker.

Essential Oils Import and Distribution Plan

by OUR BRITISH CORRESPONDENT

YET another circular amending the essential oils control in the United Kingdom has been issued by the Advisory Committee. This is the eighth since the original scheme dated May 18, 1943, was made. It supplies further information for the guidance of Datum Period Distributors, i.e., the traders who entered the oils concerned for Customs during the datum period, viz., the two years ending August 31, 1939.

It is now pointed out that when D.P.'s receive an allocation of an oil which amounts to only a portion of the total quantity of that oil of which they have been nominated, they are not obliged to deliver to their users—i.e., traders who change the character of the imported oils they purchase—in precisely the same proportion, that in fact they should not do so, if undue re-packing would result.

D.P.D.'s are advised to distribute to their users as far as possible in original packages, even if this means that the proportions received by different users vary somewhat, provided that each user receives a reasonable portion of each allocation.

Broadly, under the scheme, it may be recalled, the Ministry of Food determines the proportions in which each variety of oil is to be divided among various approved traders. Each Supervisory Body recognized as the representative organization of each trade settled the annual allotment of weight of each variety for each user-member, and each user nominates one or more suppliers through whom to receive his allotment.

RE-PACK ONLY WHEN NECESSARY

D.P.D.'s are now urged to use their discretion and only re-pack where this is unavoidable. Further, the breaking bulk charges laid down in Circular No. 1 may not be added to the basic selling price ullage package is delivered. They are applicable only to quantities actually extracted and re-packed from an original container. A special outer package for an original tin, or tins, may be invoiced at a reasonable price.

In certain cases nominated suppliers, not themselves D.P.D.'s, have failed to appoint a D.P.D. as requested under the scheme. This has held up possibly thousands of pounds of oil. Allocations Control has now taken power to transfer the allotment concerned to a D.P.D. qualified to act, and the recalcitrant supplier will lose his interest in the business. Where the total quantity of oil for which a D.P.D. is nominated under any one Supervisory Body does not exceed £10 value, Allocations Control has the right to transfer the allotment to another D.P.D.

The fixed contribution payable by approved representatives—i.e., traders appointed to act for an overseas shipper, for the disposal of the oil he exports to the United Kingdom—to cover the cost of administration of the scheme, and which is included in the grower's authorized selling price, has been increased to 4% on the "notional" c.i.f. value on oils imported by the Ministry of Food, and to 5% on the c.i.f. value on all other oils imported under license.

Circular No. 3, concerning marine and war risks insurance will become obsolete, and fresh regulations will have to be made by approved representatives concerned with importations under license. A new formula is set out, also a revised table showing amounts for which goods of a cost and freight value of £1,000 are to be insured at the rates of premium shown.

The Gossiping Guide to the News

Cosmetic trend survey shows increased purchase of nourishing creams . . . Manpower shortage still acute . . . Centralized system of planning now in process in this field

by RAYMOND W. LYMAN

THE increased purchases of nourishing creams is the noteworthy item of this month's cosmetic trend survey. As we pointed out months ago, women would soon be needing more than a dab of lotion and a pat of powder. For months millions of women have been working extra hours and have let basic skin-care go. Now they're demanding nourishing creams, stimulating creams and astringent oils. The trade is fortunate that the demand comes at a time when supply is more plentiful in oils and lanolin.

The advice of the sales representative is eagerly sought. If progress is not sufficiently rapid to suit the buyer, the chemist is consulted. Pharmacists report a flood of inquiries this month.

Fifteen hundred women were surveyed regarding their present cosmetic habits: 68.4 per cent said they were taking less care of their skins than formerly; 21.7 per cent expressed dissatisfaction with their present skin tone and said they had just purchased nourishing cream, astringent, face brush or soap which they hoped would improve their appearance.

The most interesting part of the survey results, I thought, was that

12.1 per cent of the women admitted that salon work on friends of theirs had made them notice their own need of improvement! Of these 4.3 per cent hoped to take a complete body moulding course some day. So, salon girls, here's a public appreciation award for your work. The reward? More customers.

LINES

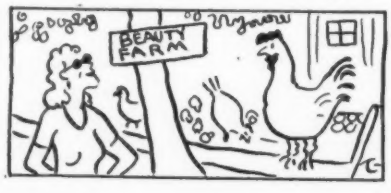
This last year has seen the final paring down of the lines, in the opinion of *Cosmia Laboratories*. Unless something totally unforeseen develops, they think that merchandising will be confined to the present items for several years after the war. Four to six shades of rouge, six to eight shades of powder is an ample range. Instead of bringing out new items, they believe in an intensive development of the basic line. Prediction: a much larger post-war business than anyone has ever considered.

THE CATCH

A talk with Miss Elizabeth Arden, who has just returned from an extensive western and southern trip, shows what the catch is in post-war sales plans. The cosmetic industry, like all other big business, will have to do some original thinking and planning. Nothing stays the same.

Miss Arden saw the west and south branching out in its buying. Quality items are in demand. She has purchased a ranch at Phoenix, Arizona, to develop as she has her Maine farm. The western ranch may take husbands, too. That is still undecided. So much for the luxury development.

Salons in the west and south will draw from an ever-growing circle. Good store and drug-store merchandising will furnish the backbone for future salon work. (The results of the current survey show this to be good sound thinking for cosmetic houses.)



Trained workers going into the armed forces and defense work have been replaced. The training problem has been as acute here as with other firms and Miss Arden spends more time at the salons now, if possible, than she ever did. About 40 per cent of the new girls plan to retire at the end of the war.

That presents more training problems. A re-training is in prospect for post-war to meet new conditions for the 60 per cent who keep working and the old personnel who return from the war. Miss Arden believes that new salon customers will not drift away and that the swing toward body culture and a fuller use of cosmetics is going to continue in an upward spiral.

This doesn't mean that the women of the country are all going to be able to afford a month at a luxurious rest-farm for reconditioning. That will always be for those who can afford the time as well as the money for a real going over. For these few Miss Arden is also experimenting with custom-made clothes for the new personality.

A wider use of the hour treatment in the salon cities. Perhaps small industrial branches; perhaps a tiny

salon in small towns, adjoining a drug store and established by the Arden attendant. The next few months as she travels about the country she will check and recheck trends. Her post-war plans will be flexible. But one thing is sure: the new users

will continue to be the post-war users.

WAREHOUSING

The large stocks in warehouses are being depleted. And they will not be replaced if the present trend toward liquidation continues. In order to conserve supply, the manufacturer is servicing the retail outlet directly. The trend is toward ownership of the retail counter of the small-town drug store which is predicted as a distinct post-war possibility. It surely stands to reason that the smaller store is envious of the business done by the large-city counter and "wants his piece of apple pie, too!"

Big business is copying direct distribution of toiletries in their plans for post-war. But toiletries itself will have a greater, not a lesser cost of distribution by the elimination of warehouses and the added cost of counters and sales representatives which in turn will be off-set by more customers and a greater profit eventually.

Fezandie & Sperrle, Inc., report most colors in good supply. Red being the present exception. Imports are a little better. Shipping will continue to be tight, as reported last month, until the invasion demands are eased but no one expects that stringency to last more than a couple of months. The color outlook, therefore, is good. But don't trust to luck. Continue to order ahead, for the manpower shortage is still acute and filling orders takes more time than a year ago.

Tombarel Products Corp. have been hearing reports of more oils to come in from South Africa and South America, etc. But like everyone else they haven't seen the quantities predicted. They've got their fingers crossed hopefully for sixty days from now. We'll report on this later.

GLASS

Glass blowers, being the highly trained technicians they are, of course are doing fabulous things for the war effort. Some of the old timers, however, are still making miniature bottles. So, although the selection is limited, according to Glass Industries, Inc., the consumer won't think so. A tiny flower or so decorates the bottle instead of dippings in copper, silver and gold. But the tiny bottles are so gay and any

consumer's heart would melt at the sight of the dainty handicraft. (This is the kind of thing the American manufacturer is so lucky to be able to provide for Christmas and counter gaiety. A morale pickup visual and mental for the long months of strain ahead. I feel the toiletries industry is doing a morale job second to none in its consumer "lift.")

Christmas packaging is taking a backseat at *Parfums Charbert* right now. Attention is concentrated on adding a new perfume to the line for Fall. To supplement the heavier Breathless, the newcomer will be a lighter blend. So this Christmas line will be well established in time for overseas mailing, store tie-ins and all the sound merchandising and advertising which goes with the introduction of a new item.

Burton Bush of Bush Aromatics, Inc., is concentrating on his high cosolvent action fixative instead of speculating about the future production of oils. (A government source, who didn't want to be quoted, mysteriously suggested a tremendous future market for fixatives. I'm trying to run the hints down with someone who will allow a quote but it will have to be next issue. I hate these elusive where-are-theys. But so many weird chemical things are happening today that I no longer balk at any rumor for the next day generally produces the proof!)

A number of firms are training new division managers. These men and women are being taught to consider themselves part of the top management. A new centralizing process is going on. First toiletries were all centrally organized. Everything flowed from the home office as the main impulse. Then the businesses decentralized: state and sectional offices or wholesalers were the source of the business impulse. Now the central thinking is again in process of being organized. Everyone recognizes the symptoms but not everyone realizes that once a trend like this is started it goes through a complete business cycle before there is a change. Consequently we are in for a long period of central management, central training and a central handling of post-war problems until the dog-and-cat competitive period is past and everyone knows just how they're going to handle their post-war business. Then the toiletries industry will once more decentralize. But right now you see the houses shifting advertising and salesmanagers, for these heads will be the dominant factors in our post-war planning.

CREATIVE MIND

Such a change was noted several months ago when well-liked Mr. Leubè went to Parfums Corday. Mixed with his enthusiastic plans for post-war packaging and new items for Parfums Corday, Mr. Leubè believes in a sound advertising program to reach those customers they can't supply today. (I have howled for the last two years on this subject and it's wonderful to see it put into practice. Why let a customer forget you, when there's a more plentiful market on the horizon, etc.)

For the Quinlan line, emphasis on the special items Quinlan has and nobody else. Sound merchandising.

And knowing Mr. Leubè, I'll say the packages will be delightful, the promotion exciting and the resulting sales a company joy.

In spite of the fact that companies are trying to hold down sales, I'd like to suggest they send a fashion coordinator out to the factories. A lunch-hour fashion show, of home town models in actual, not model sizes and heights, would be of tremendous assistance in building future sales and good will. How the average figure can be slenderized or made ungainly by the clothes and finally the correct make-up, incorrect first shown, for the various faces. A great deal more educational work must be done and if time slips by now a tremendous number of potential customers won't be reached.

Some time ago a supposedly astute business man cut his demonstrating staff and transferred the workers to another branch of the company. He didn't want any more sales, he said. That's all right now. But he should realize that the spade work we do today won't bear fruit for nine years!

Miss Neva Bradley of Daggett and Ramsdell's believes in intensive local

advertising and suggests a wider use of the smaller papers than is the custom. She has been thinking of television possibilities and their various methods of handling a perfume account. The keynote for toiletries must be repetition, she believes, after analyzing the present methods of her own firm and the advertising of the competitors. When you enter a new field of advertising, don't drop the old method; add the new one to the old. For example, don't cut newspaper advertising in favor of radio. Add radio to your full newspaper budget. The same applies to television or magazine advertising. Add to; don't switch around.

More oil is being added to many pancake mixtures as well as the new ones such as Lentheric's having a nice non-drying smooth texture. The simple plastic case and ultra-simple box is a good example of smart line styling. Don't be deceived by the simplicity. Every box today is sweated over to get production through and delivered. Order as far in advance as possible and don't give yourself a vacation was the advice one of their executives sent me when I asked for a prescription for a successful Christmas.

Mrs. O'Brien of Lord and Taylor discussed their famous institutional perfume ads, one for each of the four seasons. Institutional won't need to be supplemented by price advertising until the markets are again plentifully supplied with merchandise, she believes.

The increased use of institutional store advertising cuts out brand names and promotions. It is therefore imperative that the manufacturer advertise locally so Blank brand does not become confused with Alpha brand in the customer's mind. I maintain that if Blank doesn't keep up his advertising now, Lord & Taylor will have to rebuild Blank at the end of the war. This is not to say that I would change their institutional advertising one whit. I consider it splendid. But the manufacturers must assume their current responsibility for maintaining their trade names.

FASHION CO-ORDINATOR

The training of the fashion co-ordinator can be used "as is" for

lecturing on cosmetics and fabrics. Miss Nan Beam advocates a broadening of the fashion co-ordinator's scope. Markets are competing in Los Angeles, New York, Kansas City, Dallas and St. Louis. Imports from South America have to be considered, styled, merchandised, as well as co-ordinated. The merchandise manager therefore must be the new fashion co-ordinator brought to an efficient Nth degree.

Miss Eleanor Stierham agreed that a fashion co-ordinator must be a real part of the store management, not something just pasted on. She predicts that when that day arrives, toiletries will be given store-wide accessory promotion and women will be individually assembled to their complete customer satisfaction.

Thus go the post-war plans. (Meanwhile, don't forget your Christmas ordering. Get it done now!)

Announcements

Glickman and Associates move

Charles S. Glickman and Associates, consulting chemists, have moved their laboratories and offices to 39 W. 38th St., New York, N. Y. Mr. Glickman was formerly research chemist for the West Disinfecting Co.; and he is also a co-developer of anti-flash and insect repellant creams used by the Army and Navy. He has been a frequent contributor to scientific magazines on waxes, synthetic esters and cosmetic specialties. He will be assisted by Dr. Charles Lankau and Dr. Jay Foster in the development of industrial protective creams, synthetic waxes and esters, cosmetic specialties and raw material substitutes.

Waxes for today and tomorrow

Mineral and vegetable waxes as well as substances that may serve as substitutes, replacements or extenders are listed in a convenient 8-page bulletin issued by the Distributing & Trading Co. which will be sent to anyone interested. In addition to sending working samples the company offers technical information which may be of help in the solution of special problems.

Testing price list

A price list of the varied services offered by the United States Testing Co., Inc., ranging from abrasion tests to yarn tests and covering almost every branch of modern industry has been issued in a paper-bound 32-page booklet which is available to anyone interested for the asking. It includes bacteriological, chemical, engineering, textile, food and other tests. The research service of the concern is also outlined. A convenient index makes the location of any particular test simple.

Bottlers' reference book

The Bottlers' Reference Book and Catalog recently issued by W. J. Bush & Co., Inc., 11 E. 38th St., New York, N. Y., covers soluble flavors, citrus products, concentrated fruit juices, foams, mixers, colorings and allied subjects. In its 60 pages much useful data is given covering the cost of beverages per dozen bottles, a carbon dioxide gas chart, throws per 6 oz. bottle for various Baume syrups, and per cent of sugar in drink, and other practical data in the form of tables and text of value to the bottler. Copies may be had for the asking.

New National Association formed

In May the National Association of Rubbing Alcohol and Drug Products Manufacturers, Inc., was formed, with headquarters at 3241 O'Donnell Street, Baltimore, Md.

Officers elected were: Herman M. Shapiro of Purex Products, Inc., president; David Muchnick of Mifflin Sales Company, vice-president; Julius Richter of Twin City Mfg. Company, vice-president; and Edward Roseman of Adde Company, secretary-treasurer.

World-Wide Survey of Oil of Lavender

Italy, Russia, Hungary, and England also producing regions of lavender oil . . . Climate and soil conditions important factors in production of this popular oil

by DR. ERNEST GUENTHER

Chief Research Chemist, Fritzsche Brothers, Inc., New York, N. Y.

FOR many years lavender oil has been distilled also in the Italian part (Piemonte) of the Sea-Alps (Alpes-Maritimes), adjacent to the French lavender regions. The principal producing sections in Italy are located in the province of Cuneo (around Demonte and Ormea) and Imperia (around Carpasio, Cosio di Arroscia and Vallecrosia). The oil is distilled from wild growing, lately also from planted lavender. The total annual production of oil varies from 8,000 to 12,000 kilos, most of which is employed in Italy, some shipped to Grasse (A.M.) France, where it is probably bulked with French oil and exported as such. Direct shipments of Italian lavender oil have seldom reached oversea countries.

ITALIAN LAVENDER OIL

Until not so long ago, the Italian oils were produced mainly in old-fashioned direct fire stills such as the French distillers employed until about 1910. Because the plant material was completely immersed in boiling water during distillation, the oils usually had a low ester content, ranging around 30 per cent or a little higher. In other words, they resembled the former French oils.

Lately, however, the experience of the French producers also spread to the Italian lavender regions: the direct-fire stills were equipped with grids above the boiling water, a few steam distilleries erected. The result was a marked improvement in the ester content of the oils. Thus, Italian lavender oils up to 45 per cent ester have been offered in Grasse, but their average ester content still remains below that of the French oils.

According to Rovesti,[1] twenty-one Italian lavender oils distilled from plants growing between 600 and 1,400 meters altitude had properties which varied between the following limits:

	Steam distilled oils	Water distilled oils
Specific Gravity at 15°	0.889 to 0.893	0.8798 to .891
Optical Rotation at 20°	—6.1° to —8.2°	—4.2° to —8.3°
Refractive Index at 20°	1.4610 to 1.4628	1.4619 to 1.4639
Ester Content, calculated as Linalyl Acetate	38.54 to 43.12%	5.22 to 37.89%
Solubility	Soluble in 2.8 to 3.1 vols. of 78% alcohol.	Soluble in 0.3 to 2.9 vols. of 78% alcohol.

Most of the oils distilled from wild growing lavender contained 25 to 33 per cent linalyl acetate, a few 35 to 38 per cent, while the oils from planted lavender contained up to 43 per cent linalyl acetate.

Massera[2] reported about lavender oils produced experimentally in other parts of Italy. *Lavandula officinalis* planted in the province of Salerno gave, upon steam distillation, 0.55 per cent of oil, and *Lavandula delphinensis* planted in the province of Perugia 0.7 per cent of oil. The properties were:

	Salerno oil	Perugia oil
Specific Gravity at 15°	0.900	0.888
Optical Rotation at 20°	—4.10°	—9.3°
Refractive Index at 20°	1.4630	1.4648
Ester Content, calculated as Linalyl Acetate	32.8%	48.0%

RUSSIAN LAVENDER OIL

Nesterenko[3] reported that since 1930 lavender has been planted extensively near Jalta and Aluschta on the Crimean peninsula. In 1932, plantations in the plains of the southern districts (Baktschissarai and Simferopol) reached considerable importance.

It was found that the oil yield varied according to the variety of the plants, a good variety yielding more oil, even under unfavorable conditions, than a mediocre one. About 900 botanical forms of lavender were encountered in the botanical garden of Nikita, and oil was distilled experimentally from each form. The mediocre forms with a low oil content predominated, those with a good oil yield being much rarer. Oils with a high ester percentage were especially rare.

The content of oil in the various forms of lavender was established by micro-distillation which required only 40 to 50 grams of blossoms.

Another, simpler and more rapid method consisted in counting the oil-containing sacks ("oil glands" or oil secretion "cells") on the surface between six calyx ribs. Nesterenko observed that the number of oil sacks stands in direct relation to the quantity of oil present in the blossoms and that the different lavender varieties may be distinguished by the number of their oil sacks. Thus, varieties with 30 to 45 sacks yielded 2.5 to 3 per cent of oil, with 50 to 60 sacks 3.4 to 4 per cent, with 90 to 100 sacks 7.5 to 8 per cent, and those with 120 sacks 10 to 10.5 per cent of volatile oil, the yield being calculated upon the weight of the dried blossoms. The examination of only three blossoms and the counting of the oil sacks on only five sepals sufficed to obtain an approximate idea of the oil content of the variety in question. Thus, it was possible to

[1] *Profumi Italici* 3 (1925), 208.
[2] *Boll. chim. farm.* 76 (1937), 531.
[3] *Parfumerie moderne* 30 (1936), 387.

select varieties and forms with a high oil content which were then propagated through cuttings.

Aside from these original experiments, American or Western European literature reports little[4] about the further development of the Russian lavender oil industry which has remained somewhat shrouded in mystery. As a matter of fact, however, it seems to have progressed considerably, interrupted probably by World War II. As in other agricultural products, Russia, with its temperate climate in the south, undoubtedly offers great possibilities in regard to the production of lavender oil, the importance of which cannot be gauged yet. It was reported that as far back as 1932 Soviet Russia shipped 5 tons of lavender oil to America. Even during World War II, that country offered on the American market substantial stocks of lavender oil, the quality of which resembled that of fair French oils.

Two lots, analyzed in the New York laboratories of Fritzsche Brothers, Inc., had the following properties:

	I	II
Specific Gravity at 25°	0.881	0.881
Optical Rotation	—6° 53'	—6° 51'
Refractive Index at 20°	1.4643	1.4630
Ester Content, calculated as Linalyl Acetate	37.2%	39.9%
Solubility	Turbid in 10 vols. of 70% alcohol	Soluble in 3.0 to 3.5 vols. of 70% alcohol; opalescent in 5.0 vols. and more

These properties were closely akin to those of good quality French oils. The odor, however, was slightly harsher, somewhat lacking in the characteristic sweetness of the French oils.

CHEMICAL COMPOSITION

Williams and Smirnow[5] investigated a lavender oil (*Lavandula vera* D.C.) distilled on the Crimean peninsula and reported the presence of the following constituents:

- α—pinene
- 8% phellandrene (?)—presence possible
- 10% ethyl-n-amyl ketone
- citral (?)
- iso-amyl-alcohol
- and
- 1.6% linalool
- 55.25% esters of these alcohols, of geraniol and of isobutyl alcohol with acetic— propionic— isovaleric— and butyric acid

Williams and Smirnow did not establish the presence, in the Crimean oil, of cineol, borneol, nerol, farnesol, coumarin, and caryophyllene which occur in French lavender oil.

From our own experience with Russian lavender oil, we consider the chemical composition of the oil investigated by Williams and Smirnow rather abnormal. Regular Russian lavender oils examined in the New York laboratories of Fritzsche Brothers, Inc., possessed physico-chemical properties and an odor similar to that of good French oils.

HUNGARIAN LAVENDER OIL

Lavender grows wild, often along vineyards and roads, on the hills near Budapest and Szentendre, a small town about ten miles north of Budapest. Some of these plants are quite old, having been planted years ago. Patch plantings may be found also in many orchards and gardens, the plants being sold as cut flowers in Budapest.

It is said that lavender was originally introduced by the Turks during the 16th and 17th centuries when they occupied a large part of Hungary. The lavender found in the above mentioned localities resembles that grown in Southern France, but the ester content of the volatile oils is lower than that of the French. Experimental growing of lavender in Hungary on a commercial scale was first undertaken about 1922.

A lavender field in Hungary

CLIMATIC AND SOIL CONDITIONS

It was by no means certain that the climate of Hungary would be conducive to the growing of a plant generally considered Mediterranean. Hungary has more severe winters than Southern France. However, the fact that some of the lavender growing wild on the hills near Budapest was thirty to forty years old lent encouragement to large scale planting. Another difficulty existed in the selection of a proper site for plantings. The peninsula of Tihany on Lake Balaton was finally chosen because of its protection by the Bakony Mountains against north winds and because the large expanse of Lake Balaton promised a somewhat regulated temperature and humidity. This fact seemed especially desirable in view of the continental climate of Hungary. The chosen site opened toward the south.

The soil, too, seemed favorable for lavender, as the upper layers consisted of loam and sand mixed with disintegrated tuffaceous basalt and silicated lime. The clearing and cultivating of former sheep and goat pastures presented a difficult task because machines could not be employed. Bushes, trees, roots, stones, boulders, and grass had to be re-

[4] See also *Ber. Schimmel & Co.* (1933), 83.

[5] *J. Gen. Chem. Russ.* 6 (1936), 190—*Brit. Chem. Abstracts* B. (1936), 715.

A crop of lavender being harvested

moved from the slopes by hand labor. This was done during summer and fall so that in the following winter the loosened grass sods dried out, froze and perished.

PLANTING

Finally the lavender was planted 60 cm. apart, in rows 1 meter distant. The original idea of planting the wild growing lavender of Hungary had to be abandoned because of the too low ester content of these oils. French seed was, therefore, imported, but further difficulties arose because the imported seed germinated poorly and, besides, contained spike and other lower grades. By careful plant selection and after years of experimenting, a sufficient number of true lavender plants were raised to permit further expansion of the plantings.

Thus 12 acres were planted from 1924 to 1927 near Tihany, which acreage has since been considerably enlarged. The plants proved to be vivacious and beautiful, most of them having a diameter of 80 to 100 cm. After more than fifteen years the oldest planting showed no sign of decay.

The plantations were not attacked by pests except once when a swarm of caterpillars (*Agrotis segetum* L.) invaded the plantings and gave much trouble. No known spray destroyed these pests and, therefore, the caterpillars had to be picked off the plants by groups of children or were caught in trenches or ditches until they finally disappeared during the following winter which happened to be very humid. Meanwhile, more than one-third of the plantation had perished.

HARVESTING

According to Dr. Jules de Bittera,[6] the founder of these plantings, great care must be taken not to cut the plants too low, as cutting of the lower stalk parts which contain the small leaves may cause the plants to dry out and perish during a hot, dry August. Improper cutting and damage to the woody parts of the stem during hoeing causes the greatest losses. Furthermore, it is important that during their growth the plants assume a proper shape. Many are inclined to grow spontaneously and loosely; the principal stalks grow too long, and the whole bush more or less "falls apart." Such plants perish after a few years. Whenever such growth is noticed, the bushes should be trimmed and forced to grow spherically. Much work must be done if the planting is to remain in a healthy condition; in fact, every single lavender plant, like every fruit tree, requires individual care, although this is practically impossible in a large planting.

The harvest takes place according to the prevailing weather between June 25 and July 20. Cutting is often done as piece work by young girls who can cut an average of 150 to 250 kilos of plant material daily. However, the girls have to be supervised carefully to prevent their cutting the plants too low. About 20,000 kilos of lavender plants were harvested during 1935 from the Tihany plantation, which figure was increased during the years preceding World War II.

DISTILLATION

The plant material is distilled in portable stills of 1,000 liter capacity by steam generated in a separate boiler of 5 atmospheric pressure. A charge of plant material weighs about 160 to 200 kilos and can be completely distilled in one hour. Thirteen to fifteen charges can be completed daily, which means the processing of 2,500 to 3,000 kilos of lavender.

The yield of oil ranges from 0.7 to 0.9 per cent.

PHYSICO-CHEMICAL PROPERTIES

The properties of Hungarian lavender oils vary between the following limits:

[6] Information gathered by the author during a visit to Lake Balaton. See also "Hungarian Essential Oils," *Am. Perfumer*, Oct. (1937) to July (1938).

Hand cultivation of lavender

	Oil from plants growing wild near Szentendre	Oil from plants cultivated in Tihany
Specific Gravity at 15°	0.8846 to 0.8875	0.8866 to 0.8973
Optical Rotation	—10° 22' to —11° 17'	—6.44° to —8.5°
Content of Linalyl Acetate	33.3 to 37.2%	41.2 to 61.7%
Solubility	Not entirely soluble in 10 vol. of 70% alcohol	Soluble in 2.0 to 7.0 vol. of 70% alcohol

Some of the oils originating from the Tihany plantations possess a remarkably high ester content which proves that the soil and climate of that region are well adapted for the production of a good grade of lavender oil. Oils containing 60 per cent ester are rarely found in Southern France—only in a few localities during particularly favorable years.

Two Hungarian lavender oils analyzed in the New York laboratories of Fritzsche Brothers, Inc., had the following properties:

	Oil from the French type of plants grown in Tihany (1936 Harvest)	Oil from the Mitcham type of plants experimentally grown in Hungary
Specific Gravity at 25°	0.882	0.894
Specific Gravity at 15°	0.888	0.901
Optical Rotation	—7° 35'	—2° 52'
Refractive Index at 20°	1.4621	1.4674
Acid Number	0.5	0.6
Ester Number	123.1	47.2
Ester Number after Acetylation—(Boulez method, six hours, xylene diluent)	226.1	233.8
Content of Linalyl Acetate	43.1%	16.5%
Content of Free Linalool	30.7%	59.6%
Content of Total Linalool	64.5%	72.5%
Solubility	Soluble in 2.0 vol. of 70% alcohol; opalescent with more	Soluble in 1.5 vol. of 70% alcohol; opalescent with more

The odor of the French type of lavender oil being produced in Tihany also compares very well with the best grades of French oils of corresponding ester content. Because of the low labor cost prevailing in Hungary and the fact that Hungarian lavender plantations have not yet suffered from diseases or high mortality, the production of lavender oil in Hungary seems well favored unless the development was interrupted by World War II. So far no commercial lots of lavender oil have been exported from Hungary, the production being entirely consumed by the perfume and soap industries of Hungary and other Central European countries.

ENGLISH LAVENDER OIL

The scent of lavender has always been popular in England and lavender has been freely planted in English gardens. It is said that lavender was introduced to England in the seventeenth century by French Huguenots who probably came from Southern France where at that time the religious wars were particularly violent.

English lavender, however, is quite different from that of Southern France, containing a volatile oil with a much lower ester content and somewhat resembling lavandin. Years ago the principal lavender producing centers of England were in Mitcham (Surrey) and New Holland (Lincolnshire). Today, the producing centers have moved to Fring in Norfolk, small quantities being grown also in some parts of Suffolk, Hertfordshire, and Kent. The development of a lavender industry in Norfolk was sponsored by Yardley & Co., Ltd., who installed a modern distillery at Fring. The plantations now cover a considerable area around Fring, Heacham, Bircham, Snettisham, Dursingham, and Appleton. Two varieties are at present under cultivation, viz., a selected stock called Dwarf Munstead and a very prolific type, Giant Blue. The plants are propagated by slips, and from nursery beds transplanted to the open fields from October on. The ground must be well cleaned of weeds, rough, stony soil with a southern exposure being most suitable. The young plants are set out in rows 4 feet apart. During the first year the young plants yield only 7 to 8 pounds of oil per acre, a little more during the second year, while the highest yield of oil is obtained in the third, fourth, and fifth year, when the Giant Blues give about 20 pounds of oil per acre on the basis of a 4 ft. by 4 ft. planting. After the fifth year the plants start to decline and should be discontinued after the seventh year.

The lavender is harvested in August, during the period of full flowering, when the yield of oil is highest. Sunny weather favors a good yield, while rain or cloudy weather may produce a fair crop of flowers but a poor yield of oil.

Harvesting is done by cutting off the inflorescences with a minimum length of stem. This material is then packed in sacks and transported to the distillery.

Distillation is carried out in modern steam stills constructed of copper, with pure tin condensers. Direct steam of about 60 pounds pressure is blown through the plant material. The yield of oil is about 1 per cent from the Giant Blue, but much less from the Munstead.

PHYSICO-CHEMICAL PROPERTIES

According to Poucher,[7] the oils examined in the Yardley laboratories from 1933 to 1940, had the following properties:

GIANT BLUE	
Ester Content, calculated as Linalyl Acetate	8.4 to 16.2%; mostly 11.0 to 13.0%
Content of Free Alcohols, calculated as Linalool (Glichitch Method)	48.0 to 59.0%

In 1937, however, the free alcohols ranged from 74.0 to 78.0 per cent, 5.0 to 8.0 per cent of which were

Seager[8] distilled lavender grown near Sandringham (Norfolk) and reported the following properties:

	Var. "Old English"	Var "Giant Blue"
Specific Gravity	0.8841 to 0.8962	0.8809 to 0.8963
Optical Rotation	—3.7° to —5.2°	—9.4° to —12.0°
Refractive Index	1.4672 to 1.4682	1.4666 to 1.4680
Acid Number	0.45 to 0.66	0.50 to 0.60
Ester Content, calculated as Linalyl Acetate	10.4 to 15.8%	10.1 to 13.0%
Free Alochol Content, calculated as Linalool	50.5 to 56.7%	50.7 to 55.4%
Cineol Content	Absent	About 2.0% (estimated)

primary or secondary alcohols.

DWARF MUNSTEAD	
Ester Content, calculated as Linalyl Acetate	17.0 to 25.0%
Content of FREE Alcohols, calculated as Linalool (Glichitch Method)	52.0 to 59.0%, of which 6.0 to 7.0% were primary or secondary alcohols.

Two samples of English lavender oil obtained by the author during a visit to Sandringham (Norfolk) in 1936 and analyzed in the New York laboratories of Fritzsche Brothers, Inc., had the following properties:

	Var. "Old English"	Var. "Giant Blue"
Specific Gravity at 15°	0.890	0.882
Specific Gravity at 25°	0.883	0.875
Optical Rotation	—6° 3'	—11° 45'
Refractive Index at 20°	1.4685	1.4677
Ester Content, calculated as Linalyl Acetate	17.3%	13.5%
Solubility in 70% Alcohol	Soluble in 2.0 vol.; strongly opalescent in 3.5 vol. and more	Soluble in 2.0 vol.; opalescent with more

The odor of English lavender oil differs from that of high quality French oils, lacking their sweetness and being more cineol-like and camphoraceous. English lavender oils somewhat resemble the French lavandin oils, yet some connoisseurs, especially in England, give preference to the English product as representing the typical lavender scent to which England is accustomed.

[6] *Am. Perfumer* 35 (1937), 33.
[7] *Perfumes, Cosmetics and Soaps*, 5th Ed. (1942), Vol. 1, p. 239.

Factory Production and Consumption, and Factory and Warehouse Stocks of Vegetable Fats and Oils

MONTHS ENDING MARCH 31 AND FEBRUARY 29, 1944

KIND	FACTORY OPERATIONS				FACTORY AND WAREHOUSE STOCKS	
	PRODUCTION DURING		CONSUMPTION DURING			
	MARCH 1944 (1,000 pounds)	FEB. 1944 (1,000 pounds)	MARCH 1944 (1,000 pounds)	FEB. 1944 (1,000 pounds)	MAR. 31, 1944 (1,000 pounds)	FEB. 29, 1944 (1,000 pounds)
VEGETABLE OILS						
Peanut, crude or virgin	11,093	11,547	12,225	15,508	12,317	14,401
Peanut, refined	11,183	15,308	16,187	13,095	30,069	34,709
Coconut, crude	8,587	14,381	19,600	21,418	122,534	114,199
Coconut, refined	7,063	7,524	7,326	7,625	3,260	3,348
Soybean, refined	106,350	95,780	88,041	83,127	112,478	101,155
Olive, edible	930	2,067	41	73	3,545	3,639
Olive, inedible			44	27	173	184
Olive, sulphur oil or olive foots	(1)	(1)	248	297	4,253	4,434
Palm kernel, crude			(2)			
Palm kernel, refined						
Palm, crude			3,751	3,375	63,647	61,251
Palm, refined	(2)	(2)	(2)	(2)	83	81
Castor No. 1, crude	10,413	10,104	11,919	9,272	41,869	45,314
Castor No. 3, crude	3,264	3,039	3,596	3,200	9,987	9,138
Castor, dehydrated	6,055	4,655	5,380	4,312	10,129	10,234
Castor, sulphonated			462	478	1,085	1,135
Sesame	(1)		124	38	1,125	1,299
All other	965	2,767	851	997	28,177	29,144
Wool grease	1,419	1,201	1,523	1,390	3,979	4,137
Stearin, vegetable oil winter	7,195	7,594	5,143	5,559	11,777	10,911
Stearin, animal, edible	3,330	3,784	2,768	2,625	3,521	3,421
Stearin, animal, inedible	2,979	3,849	2,016	2,040	1,640	1,243
Vegetable oil foots, raw and acidulated soap stock (100% fatty acid content)	15,684	14,780	14,757	13,892	54,507	51,565
Other fatty acid stock including spent and salvaged oils and fats, tall oil, palm oils, etc.	1,616	1,086	4,816	4,233	16,839	15,369
Vegetable oil fatty acids from foots, and other than from foots, including fatty acids from tall oil, palm	13,166	12,322	12,466	10,940	24,010	22,553
Fish and marine mammal fatty acid	2,442	2,218	666	319	5,066	4,297
Animal and oil fatty acids	17,310	16,511	20,124	16,725	8,780	8,556
Red oil or oleic acid	7,315	6,554	5,747	5,204	[3]13,477	[3]13,453
Stearic acid	5,238	4,628	4,268	3,941	[4]8,927	[4]9,174
OTHER PRODUCTS						
Glycerine, crude (100% basis)	18,459	17,209	18,324	17,748	12,662	12,462
Glycerine, high gravity and yellow distilled 100% basis)	8,137	7,344	6,382	5,802	36,836	35,212
Glycerine, chemically pure (100% basis)	9,079	9,766	7,370	5,709	43,942	40,537

1. Included in "All Other" vegetable oils.
2. Not shown to avoid disclosure of individual operations.
3. Includes 5,385,000 and 4,641,000 pounds in hands of producers for March and February, respectively.
4. Includes 1,386,000 and 1,443,000 pounds in hands of producers for March and February, respectively.

Packaging Portfolio

LENTHERIC: Cake Make-up is Lentheric's newest addition to the "Soft-Focus" cosmetic group. It is presented in a gleaming black plastic container with Lentheric in turquoise-toned script across the cover. Cake Make-up comes in three shades: Light, Medium, and Tan, each touched with a rosy tone to give a glow to the skin.

LENTHERIC

COTY. Muguet des Bois perfume is presented in a delicate crystal glass bottle beaded with a design suggestive of noddling muguet sprays. It is capped with shell pink plastic. For indescribable freshness, Coty suggests this very perfume which is available in three sizes.

COTY

RUBINSTEIN. Minute Stocking Film, this new leg make-up is presented in a deep beige shade. Squeezed from its convenient tube it fairly flows on your leg, creating a chiffon-like stocking. Not just a new product but a new technique as well.

RUBINSTEIN

VITA RAY

VITA RAY: "Gallivanting," a new toilet water, comes in a six-ounce bottle. The bottle has a blue label and is capped with blue plastic.

YARDLEY

YARDLEY: Rose Rachel, a new shade of face powder, has made its debut. This rose-golden powder can be worn effectively by the vibrant brunette as well as the sun-tanned blonde. Yardley suggests you use Bond Street Make-up Base in Tan with it for a lasting radiant look.

GERMAINE MONTEIL

GERMAINE MONTEIL: Three basic sun requisites. Light application of Tan-Pruf lotion will allow for a light tan; while heavy application is suggested should you wish to keep your skin "lily white." Suntan oil is the answer to those who desire a nutbrown complexion. Bronze Beauty Balm is offered for a cool and effective foundation.

DOROTHY GRAY

DOROTHY GRAY: A scientifically-designed line of baby products has just been introduced. All four items shown: baby oil; baby softening skin cream; baby powder; and baby anti-chafing ointment; are appealingly packaged in blue and white with pink bowknot and ribbon design.

Short Adages

by R. O'MATTICK

THIS is our own report about Conventions. Dr. Rowmateral took them all in and he is all in—all in all, and had little to say about them, so we shall give our own account for the benefit of those who missed one or the other, or all four of them, or who were too near the bar to know what was going on upstairs or downstairs.

First came the Convention of the Proprietary Manufacturers Association at the Hotel Biltmore, New York. Most of the talk was about drugs and cures, but quite a number of essential oil men were on hand because a little odor and a little flavor helps in things like cough syrups, mouth washes and nerve tonics. Although the e.o. fraternity weeps about all the materials they cannot get to take care of their customers, they are nevertheless on the lookout for some stray inquiries from this or that new prospect who wants a little perfume oil compound, or a little flavoring material.

Hardly was the convocation at the Biltmore over when the T.G.A. began to gather at the Waldorf for its two-day session. It required Oscar's Grand Ballroom to take care of all the luncheon-ticket holders.

Pat Chauli was on hand and expressed great pleasure about the after dinner speech of his co-patriot, the red-headed publisher of the *American Magazine*.

On the following week came the Flavor Extract Manufacturers Convention at the Hotel New Yorker. A number of men from out-of-town, as well as from New York took in all three conventions, and at the time of this writing are packing up to attend the Canadian Convention in Quebec. Yes, sir, whatever the shortages may be, there is no shortage of conventions. . . .

* * *

The conventions in New York were all very good, but the one in Canada is something to look forward to. A special boat will take many of those attending from Montreal to that lovely and ancient city of Quebec, where the manufacturers and suppliers of the cosmetics industry in Canada will gather with a number of their friends from the States. It is with regret that Otto Stock thinks of this convention because it is the last one on his list, and there will be no more to go to until next year.

* * *

Otto is not quite like the fellow we know who came to New York from the Middle West to attend the Proprietary Manufacturers Convention as he is an active member of the association. There he met a friend who promised him a supply of the right kind of glass bottles. Our man, who shall be unnamed, was persuaded without much effort to go along with the bottle man to the T.G.A. Convention. There he met a friend who promised him caps, and their conversations continued at the Flavor Convention. From there it was only a step (being in the same hotel) to the Corn Syrup Manufacturers Convention, and so on it went, until he has been trying to get away from conventions ever since in order to attend to his own business.

The last time we ran into him was at the bar of the Biltmore, where we first saw him months before. He was attending a convention of Convention Executives, and confessed that he did not know how he got there, or what he was doing there—but he was doing all right.

* * *

Many years ago the conventions were filled with suppliers. If six suppliers had one buyer at their table among themselves they considered the luncheon a success—especially when they eyed the next table and noted that there sat seven suppliers with not one buyer amongst and betwixt them. Those were the days! The days when Sand L. Wood sent us a card from Atlantic City where the old Perfume Manufacturers Association held their conventions in the early twenties. The card had a picture of a bathing beauty (early twenties version) on one side, and this verse, written by Sand L. Wood on the other side:

"It was not my intention
to attend this convention,
but you have to show your face
in this gathering place
where we poor suppliers
can meet a few buyers."

* * *

Nothing much has really changed as far as conventions go since those days, except that the last two lines of the verse can well be reversed:

Where we poor buyers
can meet a few suppliers.

"We have the absolute at $95.00 an ounce and the artificial at 95 cents a half gallon!"

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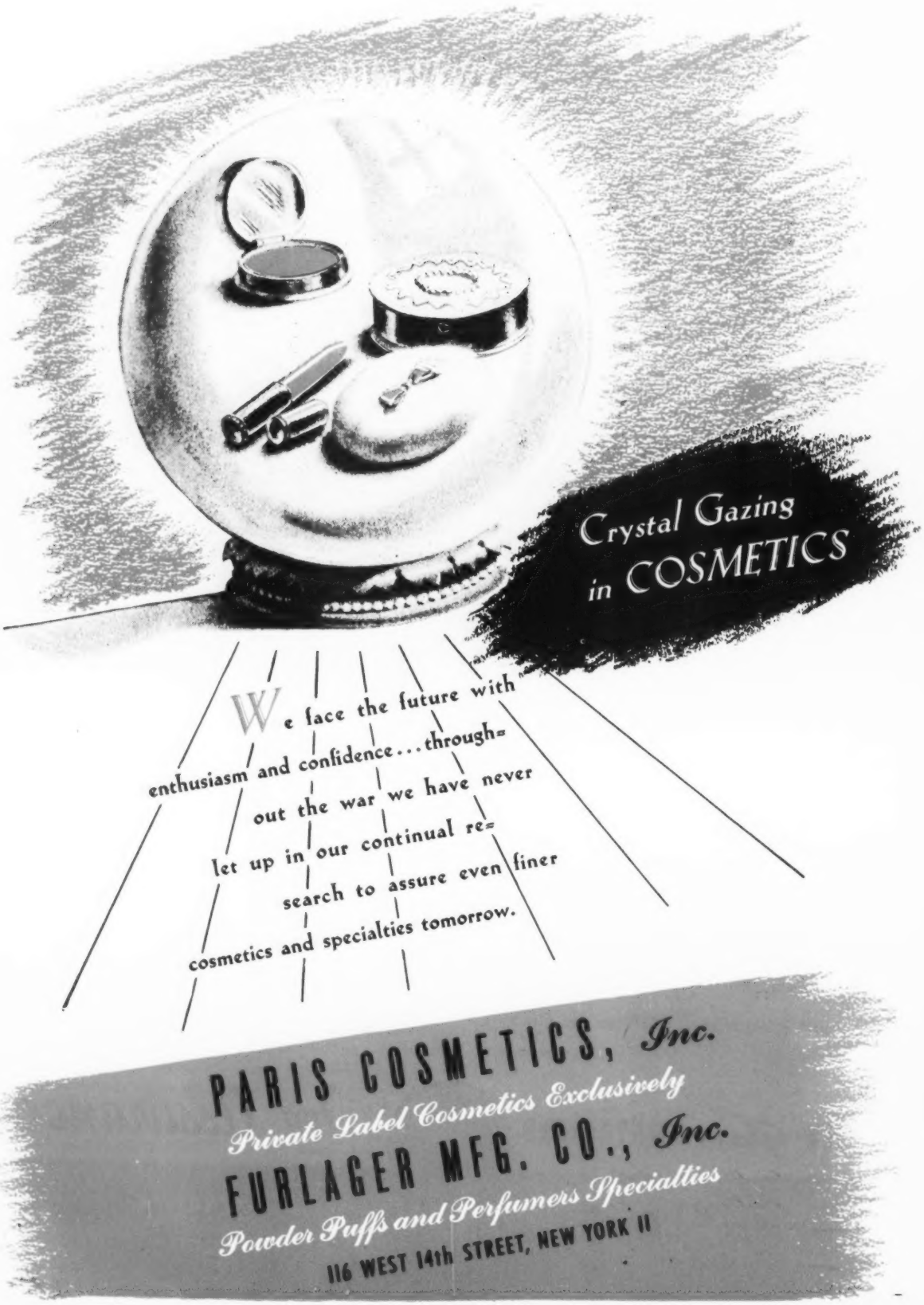
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Emulsions, Emulsification, and Emulsifying Agents

Second of a series of articles discussing recent developments in the field . . . Preparation of oil-in-water and water-in-oil emulsions, new trends and discoveries

by LOUIS T. MONSON

IN the first portion of the present paper, the fundamentals of emulsions were discussed. We have seen that, while the two materials present in predominant amounts in an emulsion are "water" (meaning pure water or any aqueous medium) and "oil" (comprising all liquids not miscible with water or the aqueous medium which constitutes the other phase of the emulsion), it is probable that the most important constituent of any emulsion is the emulsifying agent. This third ingredient, although present usually in only minor proportions, is responsible for the permanence of dispersion of the drops of the one liquid in the continuous body of the other liquid, and hence is responsible for the stability of the emulsion in question. The present section will discuss the characteristics of emulsifying agents in greater detail, and will attempt to describe some of the more widely used types of such materials.

These substances are remarkable in many respects. In the first place, only a very small proportion is usually required to produce an emulsion of acceptable stability, because the particles of emulsifier are positively adsorbed at the interface or boundary layer between the liquids, and operate to stabilize that interface. It is a case of having your troops stationed exactly where the line must be held; and only a relatively small complement are required for this. Secondly, they are unusual in that, for a given oil and a given aqueous phase, the emulsifying agent determines the type of emulsion. With an emulsifier which is preferentially oil-dispersible, one obtains water distributed in small droplets in an oily medium (a water-in-oil emulsion); whereas, with an emulsifier which is preferentially water-dispersible, one just as readily obtains exactly the opposite type or oil-in-water emulsion. The proof of emulsion type is usually relatively simple: pour or stir a small portion of the emulsion into a glass of water. If it disperses at once to produce a homogeneous (although probably cloudy) liquid, it is an oil-in-water emulsion. If it refuses to mix with water (usually rising rapidly to the surface), it is of the water-in-oil type. The latter type will, of course, disperse readily in oily media. For all practical purposes, the emulsion behaves in such tests almost as if it were composed wholly of the continuous phase and contained no dispersed droplets, because the latter are so completely enveloped in the former that their effects and properties are suppressed.

COMPOSITION AND STRUCTURE

A third respect in which emulsifying agents are an exceptional class of materials is that they comprise so many different chemical compositions and structures. Since this is true, it is not strange that the list of such agents is long and varied. For example, Bennett's *Practical Emulsions* (Chemical Publishing Co., 1943) lists more than 600. Some duplication may be noted since both scientific and commercial names appear; but even with this reservation his list is impressive. Similarly, Van Antwerpen published comprehensive lists of surface-active agents in *Industrial and Engineering Chemistry* in 1939, 1941, and 1943. The latest list includes more than 200 commercial trade names. To show the increase in interest in this field of chemical manufacture, the production of one single type of such reagents increased 50% from 1940 to 1941, the 23 million pounds of the products bringing a return of more than 6 million dollars the latter year.

Several ageless examples of emulsifying agents illustrate the properties which are important from the present standpoint. Common soap has for centuries comprised the sodium or potassium salts of the organic acids occurring in the various natural animal and vegetable oils. Its emulsifying properties have been known almost as long as the material itself. The various natural exudates or gums, like gum arabic or acacia, gum tragacanth, and karaya gum, have been used as emulsifiers so long that they are often taken as the classical examples of emulsifying agents, especially in pharmaceutical, cosmetic, and similar emulsions. Casein is another familiar name in this field, a material being used in tons today for the purpose of stabilizing emulsions. Each of these materials falls within the pattern of emulsifying agents; and their characteristics are sufficiently well-defined to set specifications for the discovery or synthesis of the more modern examples of the class. They all comprise large organic molecules, meaning that they contain a considerable number of carbon atoms and hydrogen atoms. The fatty acids from which soaps are made have molecular weights usually in the neighborhood of 300 and always 200 or more. They possess usually from 10 to 18 carbon atoms arranged in chain form, and some 20 to 36 hydrogen

(*Continued on page 53*)

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(*Continued from page 51*)

atoms attached to the carbon chain. The gums, while usually thought of as carbohydrate in nature, are now known to contain high-molecular-weight acids in the form of their metallic salts. The number of carbon atoms is said to range from 12 to at least 24, although the structures of the components are not too definitely established. Their molecular weights are even higher than those of the common soap compounds. Casein is a nitrogen, phosphorus, and sulfur-containing protein whose molecular weight is unknown. A minimum value of 192,000 has been suggested by Conant.

Each of our examples comprises a molecule of unbalanced or unsymmetrical structure, in that it contains certain chemical elements like oxygen, sulfur, nitrogen, and metals, and in that the distribution of such other elements is not regular or uniform within the molecule. For example, in common soaps we have an atom of a metal like sodium or potassium attached at one end of a long carbon chain, with two oxygen atoms (usually the only ones present) appearing at the metal atom's end of the carbon chain. To the extent that the gums are salts of organic acids, the same statements hold as to them. But in any event, they are combinations of carbon, hydrogen, and oxygen atoms arranged unsymmetrically in the molecule.

COMPLEXITY OF CASEIN

Casein is so complex that it will not be discussed except to repeat that it is probably a mixture which contains sulfur, nitrogen, phosphorus, and oxygen in addition to carbon and hydrogen, and that it is usually employed in the form of its sodium or ammonium salts. The latter fact shows its acidic nature. Again, the sodium or ammonium "atom" is in proximity to several oxygen atoms; and an unsymmetrical structure can be presumed from the very fact that it is classified as an acid, since organic acids broadly are of unsymmetrical structure.

This unbalanced structure may be one of limited unbalance or of more extensive nature. Unsymmetrical organic compounds, while electrically neutral as a whole, possess within their molecules positive and negative electric charges, as do all chemical entities. Their unbalanced structure prevents the respective charges neutralizing each other completely, so that the effects of positive and negative poles are observable; and we say the compound is of "polar" nature. Polar compounds exhibit certain properties because of this inequitable distribution of charges on the molecules. For example, when a sodium, potassium, or ammonium salt of a higher organic acid (e.g., soap) is introduced into water, those molecules which find themselves at the surface will in time assume definitely oriented positions with the metal or ammonium end of the soap molecule facing the water and the fatty acid or carbon chain portion of the molecule standing erect in the air, or into any oily medium which may be present as a supernatant layer. This orienting power is obviously significant in the stabilization of emulsions by such materials.

In addition to polarity, most of the emulsifying agents in use possess the power to ionize in water, i.e., to dissociate into charged particles under such conditions. For example, molecules of sodium soaps liberate their single sodium atom as a positively charged particle or cation, while their organic portion, comprising the long carbon chain and associated hydrogen and oxygen atoms, assumes the corresponding negative or anionic charge. (In the case of soaps, as readers were warned some paragraphs above, the facts are not quite so simple as here recited; but for purposes of illustration it will be assumed that the simple structure prevails.) This negatively charged residue of the soap molecule comprises atoms which account usually for more than 90% of the mass of the compound, and sometimes for more than 95% of the total mass. Whereas the sodium ion liberated is no different from the sodium ion liberated from common salt, in that it enjoys all the mobility and other properties of ordinary ions, the negatively charged "anion" does not. Rather, it is the portion of the whole which causes us to class the compound as not truly soluble but "colloidally" soluble, or "surface-active," or however the fact is to be expressed. If it were like the sodium ion, there would be no colloidal solubility, no lowering of surface tension, no adsorption at interfaces, no foaming tendency, no emulsifying power present in the soap. Since it is the "anion" which confers this extensive activity, such reagents are referred to in emulsion literature as "anion-active."

CATION-ACTIVE AGENTS

In the same way, there are other materials which in water liberate a simple negative ion or anion, like the chloride ion of common salt; but their positively charged residues, instead of being simple ions, are complex aggregates comparable in characteristics to the negatively charged soap residues discussed above. Such emulsifying agents are referred to as "cation-active," because it is the cationic portion of the molecule which confers the surface-active properties to the whole. This type of material has attained industrial prominence only in recent years, because those earlier members of the class which were known were relatively expensive. They possess extremely important applications now, in instances where the character of the charge on the surface-active portion of the molecule is significant.

In addition to the two foregoing classes of emulsifiers, which may be termed "ionogens" because they produce ionized particles when placed in water, there is an important class of emulsifying agents which is non-ionogenic in character. This class, like the cation-active group, is of relatively recent commercial utilization. It has certain unique applications, and is finding a place in the field of commercial emulsifying agents.

Examples of the various classes of emulsifiers, together with statements of their composition, applications, and commercial designations, will receive attention in a subsequent section of this discussion.

(Editor's Note: This article will be continued in an early issue.)

New Products

Sodium antimony in the treatment of kala-azar was first used as early as 1914 by Sir Leonard Rogers. Then the Germans developed what they called stibosan, following with neostibosan in 1927. Until entry of the United States in the present war with dispersal of troops and naval personnel to distant tropical bases, there was no need for the drug in this country, Dr. Klumpp pointed out.

Importing of Essential Oils Serious Problem

Substantial quantity of various essential oils produced but its distribution and financing difficult. Immediate outlook hazy . . . Effort being made to bring some of this material to this country

by FRANCIS T. DODGE
President, Dodge and Olcott Company

THE problem of purchasing, financing and distributing Essential Oils and kindred products is if anything more perplexing today than at any time since the present world war commenced in September, 1939. During the first year or two of the war there was a pretty general advance in the price of most of these commodities.

After the fall of France and Italy's entry into the conflict it became increasingly evident to those who were trying to think the matter through that those products native to France and neighboring countries would certainly not decline in value but would most probably advance. From the middle of 1941 onward, as the clouds over the Pacific grew darker and more ominous, far-sighted importers bought East Asian Oils in far greater volume than in ordinary times. They decided that such purchasing was a good gamble. If by some chance Japan would not eventually get into the conflict, the worst that could happen to the buyers of the goods in question would be the taking of a slight loss or perhaps of getting out about whole, due to an over-stocked market. On the other hand these importers rightly figured that, if Japan and the U.S.A. finally should come to blows, there might be no limit to which prices would soar.

So 1941, and the first few months of 1942, witnessed an advance in the price of many coveted articles almost unparalleled in the history of the trade. During that period it did not require a great deal of judgment to make money in trafficking in most imported Essential Oils. If one were fortunate enough to be able to purchase goods in foreign lands, and if one were even more fortunate in learning that they had actually been shipped, it was a simple matter to

Francis Dodge discusses problem

make what looked on paper like a very large profit.

This brings us up to May, 1942, when our government imposed the now famous price ceilings. In the final analysis this was a wise policy, although in a few cases it has worked definite hardship on American importers and manufacturers where the foreign exporter 5,000 or 10,000 miles away either has never heard of such ceilings or really believes that they are "phoney," and continues to ask prohibitive prices. Subsequent to this imposition of ceilings many of the markets in which we are interested have remained pretty steady, owing chiefly to a very real spot scarcity. Had supplies been more easily available, prices would probably have declined somewhat because many of the ceilings were fixed at a relatively high level. Today, however, the picture is exceedingly perplexing. Now, with victory for the allies at least on the horizon, with Madagascar and the neighboring islands again in French hands, with North Africa, Sicily and the land of Bergamot at least on the verge of commercial intercourse, importers who thought they had boundless courage when purchasing during 1940-43, are now proceeding to buy goods abroad with all of their fingers crossed and with a degree of uncertainty as to the near future which was unfamiliar to them in recent years.

To be a little more specific the immediate outlook for oils of geranium, vetivert, ylang ylang, etc., is at least hazy. Most of us know that there are substantial quantities of various essential oils produced in Madagascar, Reunion and the Comore group lying in those islands, but how to get them here and how to finance them is another matter. Beyond this, we are informed by the French Colonial authorities that they have established, and will continue to maintain, stock-piles for eventual shipment to the mother country if and when shipping facilities are available. This may be three months hence or six or twelve months hence. No man knows. It would be at least human for the island shippers to borrow from said stock-pile and ship to this country if shipments to France become more and more postponed. The activity of our friend John Bull in the islands mentioned has had an important bearing on the prices asked for these oils. During 1943, when our government was giving us no encouragement and no help whatsoever in bringing to this country these admittedly non-essential products, the British Board of Trade was cooperating with English importers and manufacturers in securing and in having dispatched from the producing islands at least a portion of what Britain needed at the time. The only advantage that we Americans gained by this British initiative was the fixing of some sort of price. If London started the ball

(Continued on page 59)

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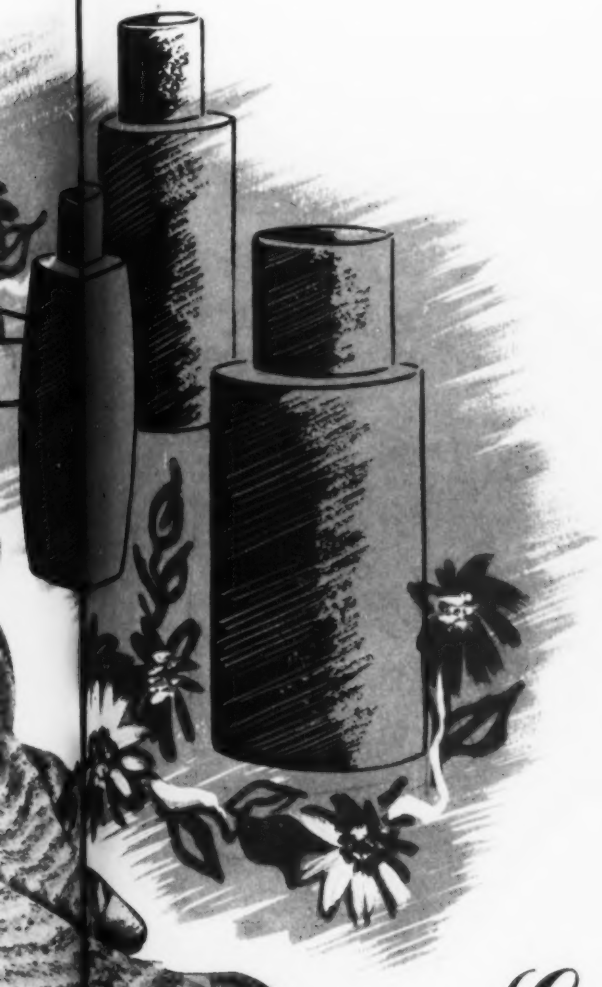

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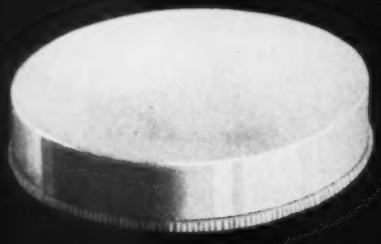

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(Continued from page 54)

rolling by bidding $3.60 per pound net, f.o.b. Saint Denis for geranium, it was not likely that our good friends in Reunion would sell to America, the streets of which are reputedly lined with gold, at a lower price. A few of our importers with commendable initiative sent out in 1943 quite substantial orders for the various oils mentioned above, and after many exasperating delays were finally informed by the French Governor of Madagascar through the Washington representatives that minimum export prices had been established, all of them considerably above the ideas of the importers. After several more months of negotiation American importers have succeeded in purchasing all of the oils mentioned at prices which look reasonable compared to those which have been ruling on the New York market, which is almost bare of stocks. However, the prices in question are usually f.o.b. Madagascar port or f.o.b. Saint Denis. In the case of shipments from Reunion to the U.S.A., two trans-shipments are frequently involved, one at Tamatave and the other at Durban or Mombasa. Goods may wait at a transshipment port for weeks or even months. Therefore, the present great spread between the prices ruling in the islands and in New York will continue until some proof is received that the oils are actually on the last stage of their journey to this country.

HIGH PRICES

On several occasions the American representatives of the Free French have expressed their conviction, perhaps well founded, that high prices are bound to last for a considerable period. They maintain that after every great war there has been a prolonged spell of inflation, and up to date they have not retreated from this point of view.

Although the U. S. Army has been in North Africa for about eighteen months, practically nothing in the way of essential oils has found its way thence to New York. A satisfactory modus operandi has not yet been worked out by the several Washington bureaus involved so as to enable us to import with any regularity. Algerian geranium has reached fantastic levels at the source.

Although the American public was led to believe last summer from reading the newspapers that most of the towns and cities of Eastern Sicily and Calabria were almost destroyed, it was surprising and encouraging to learn a few months back that goodly stocks of bergamot were being uncovered in caves and subterranean warehouses in and near Reggio. As usual, London got busy before Washington and the flow of oil to England commenced. Efforts are now being made to bring some to this country at prices which will not be prohibitive. It has been learned that a few of the firms active in the so-called Messina essences before the war are still functioning and it is understood that they will be used to assemble the oils and pass on their quality. So far so good, but let us not expect immediate relief; substantial quantities of bergamot and lemon may not arrive before autumn.

CITRONELLA OIL

Citronella oil from Java may be one of the *last* articles to reach this country, with the probable exception of Japanese oils like camphor and peppermint (arvensis). Even after the Japanese are driven out of Java and Sumatra there is bound to be great delay in receiving anywhere near the tonnage of citronella which this country was accustomed to expect. While citronella is being produced in Guatamala, Honduras, and other places, we really have to depend on Java for quantity. The Ceylon type of oil is less interesting.

Oil Palma Rosa is keeping very high because of the strong local demand in India itself. Some are apt to overlook the fact that India's great advance of late as a manufacturing nation has resulted in a buying power in its huge population which can conceivably compete with the purchasing power of some European countries. As a matter of fact many American essential oil dealers have enjoyed two or three years of considerable export business to India, limited only by their ability to obtain in this country the desired items.

Lemongrass oil after a few flurries earlier in the war has been coming through from the Malabar Coast of India reasonably freely so that the several derivatives therefrom are not at a prohibitive price level. Manufacturers of ionones and methyl ionones are handicapped, however, because of uncertain labor conditions but this phase is so general in all lines of trade that it is almost superfluous to mention it.

The powers that be in Spain are now realizing that they backed the wrong horse earlier in the war and are listening attentively, although perhaps unwillingly, to the advances and arguments of Uncle Sam and John Bull. As a result, among other articles, the flow of rosemary and spike lavender from Spain to New York has been much more even than it was two years ago. These two oils have filled an urgent need in many quarters when other and better oils have been unobtainable.

The importation of rosewood oil from Brazil has been very erratic due to international trading problems touching large articles like rubber. For an extended period *no* permission to import rosewood oil was granted, and then suddenly over 250 tons left Brazil for this country. The consuming demand for this large quantity has shown how light stocks were in America. There is no reason why more of this oil will not continue to come forward but it is not yet at all certain that the supply will equal the demand, especially while oils like lavender continue scarce.

This country has been fortunate in being able to receive fairly large quantities of Paraguay Petitgrain and of Mexican Lignaloe Wood Oil. Prices on both of these have fluctuated in the past two or three years but not to any serious extent. The price ceiling of most dealers on Petitgrain Oil has not been very high and this has kept the article moving in a satisfactory way at prices which are not at all prohibitive. There is no reason why this oil should not continue to come in in sufficient quantities of Paraguay Petitgrain demand.

It is known that after the fall of France the Nazis continued to encourage production of articles like Jasmin and Rose in and near Grasse and took the products to Germany in considerable quantities. One of the Leipzig manufacturers who has been active in essential oils for many decades, was reported to have had supervision over the production of Grasse products. Articles like Rose and Jasmin are intrinsically so valuable that they may very easily play a relative-

(Continued on page 61)

"Devon Violets"

The exquisite fragrance of Devonshire Violets faithfully reproduced in a rich, lasting blend for fine extracts, colognes, and powders.

Moderately priced at $20.00 per pound. Samples and suggestions upon request.

COMPAGNIE PARENTO

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NEW YORK DETROIT LOS ANGELES PHILADELPHIA CHICAGO SAN FRANCISCO

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(Continued from page 59)

ly important part when Germany's acquisition of the products of neighboring countries is finally figured up. Both of the important articles mentioned have keeping qualities, so that they do not deteriorate rapidly as the years go by, and they certainly represent a definite gold value. Lavender Oil has been sorely missed by the industry and it can only be hoped that, after hostilities cease, important quantities will be shipped from southern France to the United States. We must not be too optimistic about this because we have had so many proofs of the extreme slowness with which certain industries become reorganized after actual combat work is finished in the territories involved. The North African situation is a case in point.

A little Jasmin has trickled through from Egypt in the past year and it would now appear as if some of the Italian product might be forthcoming during the approaching summer; at any rate it is known that there is a limited stock available in Sicily. The very high prices paid for Jasmin in the middle twenties resulted in greatly increased acreage at that time. The Jasmin cycle of satisfactory production approximates 15 years. If this be true, it is probable that there may continue to be a shortage of this much needed article for several years.

Oils of Anise and Cassia from China have been as scarce as hen's teeth. Stocks are practically nonexistent in this country. From Chung King we hear of amazingly high prices for both oils, a part of the terrible wave of inflation sweeping that unfortunate land. Musk from China can come out by air, but here again the most fantastic prices are being quoted—beyond the reach of most of us.

Otto of Rose has been very scarce owing to the difficulty of getting it out of Bulgaria. In the first two years of the war much of it was brought into this country by the Standard Oil Company, whose Bulgarian interests sent it here instead of dollars, which were then unobtainable in Sofia. Later, occasional shipments from Turkey have found their way to this country via Basra on the Persian Gulf and Capetown. Today what little Otto is available in the hands of foreigners is quoted at or above the ceiling prices of most American importers. This situation may be adjusted in time.

The problem of financing imports, particularly from remote spots like Reunion, has been a serious one, and the scarcity of ships with the attendant need for trans-shipments have made the Colonial bankers most exacting and arbitrary in their demands for constantly changing types of letters of credit. One New York importer purchased $6,000 worth of clove leaf oil in Madagascar seventeen months ago and has spent over $100 in cabling the original letter of credit with several subsequent amendments, in the effort to satisfy the discounting bank. Incidentally, the oil has not yet reached this country!

VEGETABLE FATS & OILS, George S. Jamieson. Second edition A.C.S. Monograph No. 58. 508 pages, 6x9 inches, illustrated and indexed. Reinhold Publishing Co., New York City. 1943. Price $6.75.

A revision of an earlier edition, bringing up to date the many criterions, physical and chemical, for the host of vegetable fats and oils including quite a few new ones. A considerable portion of the Appendix has been augmented by new and additional information.

There is no question but that this is one of the best books on this subject. The author works with the oils and has his knowledge first hand. In addition he has attempted to give a good cross-section of other views. The popularity of the book and the need for a second edition are sufficient testimony to its wide usefulness.

Even so, this reviewer would like to see a further expansion of the section on fatty acids to make it as complete and helpful as are the sections on the various oils such as coconut or cottonseed. It is an excellent opportunity for a straight American Reference on the whole subject of fats and oils, while the present volume is restricted only to those of vegetable origin. The same applies to the sterols, a subject on which there is great paucity of information.

For the most part, Dr. Jamieson's book is very practical. Yet a still closer contact with industry would reflect itself on some subjects. It shows a keen knowledge and regular dealing with vegetable oils and fats.

—M. G. deN.

WASHINGTON NEWS

Those who need help in making arrangements of any kind within WPB or OPA will find they can save themselves many headaches and unnecessary efforts by placing their problems before Dr. George W. Fiero, of the Chemicals and Drugs Section in the General Commodities Division of OCR. Dr. Fiero is the friend of the cosmetics and toiletries industry in OCR. It is significant that he is still there despite the shifts that have occurred since OCR's new Vice Chairman, Dr. William Y. Elliott, was transferred from WPB Stockpiling and Transportation Division, to succeed Arthur D. Whitesides. Whitesides' going incidentally still is regretted from top to bottom of WPB. Elliott, who has been in the war government since the earliest days, even before Pearl Harbor, is familiar with many problems of the cosmetic and toiletries industry which came before him as head of Stockpiling and Transportation. In FEA, there has recently been set up an office to clear foreign accounts under the direction of Commander Roger Hyatt, U.S.N.R., sometime senior vice president of the Continental Illinois National Bank & Trust Company in Chicago. He will coordinate the work of all agencies which have any relation to the acquisition of materials, such as essential oils, in any foreign country. He will clear the foreign transactions involving State, Agriculture, War, Navy, Treasury, and Commerce Departments, and other agencies such as Budget, CIAA, RFC, WSA, USMC, Tariff Commission, and Surplus War Property Administration. Export problems requiring regulation by OPA recently came under discussion by OPA Exporters' Industry Advisory Committee among whose members is R. M. Dunning, Vick Chemical Company, New York.

An amendment to Order L-103-b shifted from base year to current glass container quota as a means of calculating the number of metal closures permitted for use in packing hand soaps and shaving creams, thus assuring metal closures for all such glass containers. WPB took the unusual step of issuing assurance that employers who offered incentives to employees who secured the return of cartons would not be penalized.

MEYERCORD DECALCOMANIA

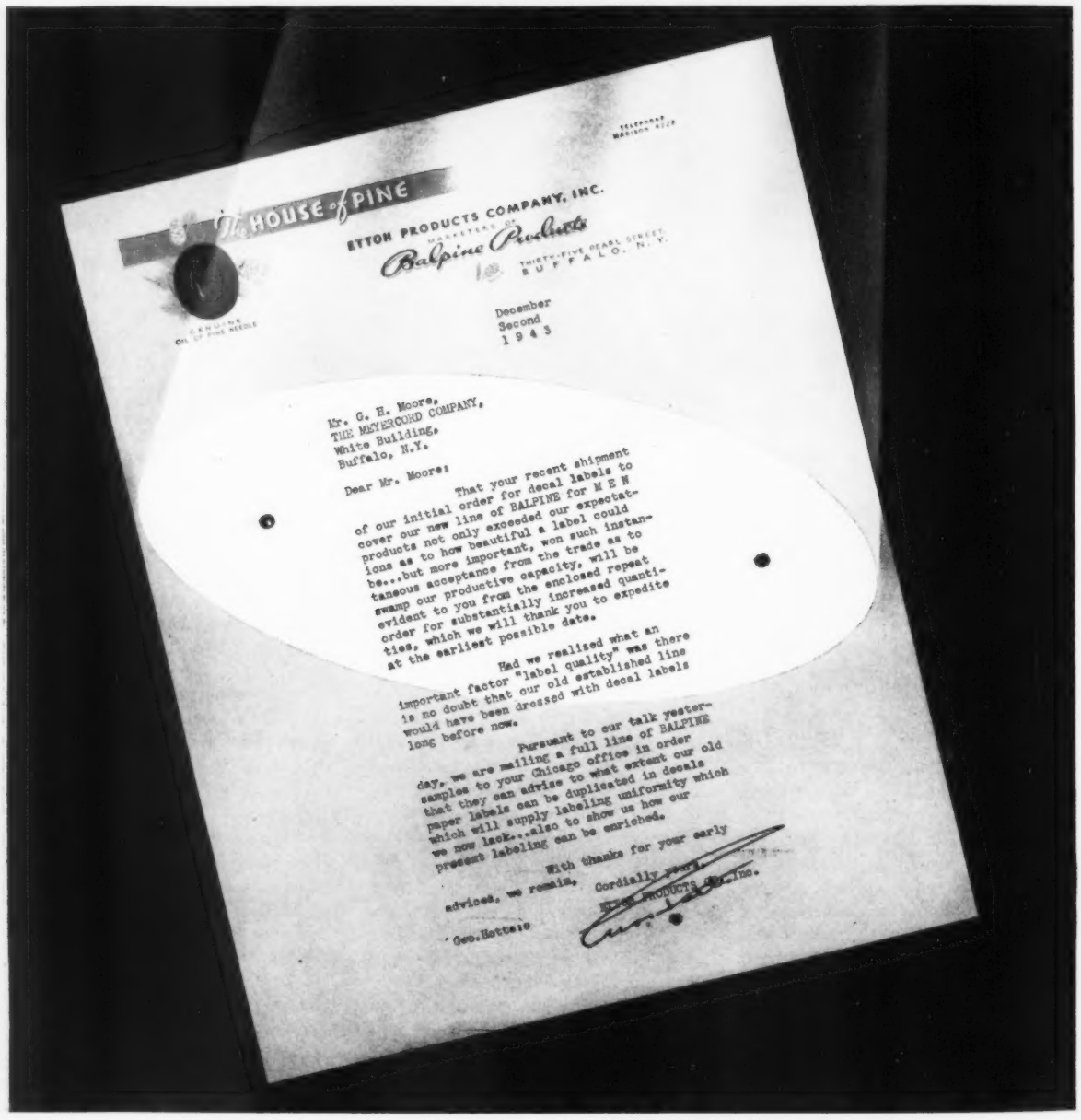
Stars in Sales Success Story!

"Your decal labels . . . not only exceeded our expectations as to how beautiful a label could be . . . but more important, won such instantaneous acceptance from the trade as to swamp our productive capacity."

This excerpt from a letter to The Meyercord Co. from the Ettoh Products Company, Inc. is the "happy ending"—or perhaps it would be more correct to say the "happy beginning"—of a true sales success story that should be of vital interest to every manufacturer and distributor of packaged products.

The story began when the Ettoh Products Company, marketers of Balpine toiletries for

Read this letter from Mr. George Hotte for the complete story of Balpine Products' success with Meyercord Decals.



THE HOUSE of PINE

ETTOH PRODUCTS COMPANY, INC.

MARKETERS OF

Balpine Products

THIRTY-FIVE PEARL STREET
BUFFALO, N. Y.

December
Second
1943

Mr. G. H. Moore,
THE MEYERCORD COMPANY,
White Building,
Buffalo, N.Y.

Dear Mr. Moore:

That your recent shipment of our initial order for decal labels to cover our new line of BALPINE for M E N products not only exceeded our expectations as to how beautiful a label could be...but more important, won such instantaneous acceptance from the trade as to swamp our productive capacity, will be evident to you from the enclosed repeat order for substantially increased quantities, which we will thank you to expedite at the earliest possible date.

Had we realized what an important factor "label quality" was there is no doubt that our old established line would have been dressed with decal labels long before now.

Pursuant to our talk yesterday, we are mailing a full line of BALPINE samples to your Chicago office in order that they can advise to what extent our old paper labels can be duplicated in decals which will supply labeling uniformity which we now lack...also to show us how our present labeling can be enriched.

With thanks for your early advices, we remain, Cordially yours,

ETTOH PRODUCTS CO., Inc.

Geo. Hotte:o

These five beautiful Balpine packages vividly illustrate the beauty, eye appeal and effectiveness of Meyercord Decals for product identification and decoration.

men, was confronted with the problem of giving their products new and modern identification. Recognizing that eye appeal means *buy* appeal—that it's *personality* in packages, as in people, that's important—they set out to obtain a design that would have outstanding and *lasting* beauty. Because of the nature of the products, the new labels had to be water-proof and resistant to alcohol and acids. Paper was impractical. Other materials proved equally unsatisfactory. Finally Meyercord Decalcomania engineers were called in—and the result was a Decal identification program that produced the sales story with the "happy beginning" quoted above.

Alert marketing executives, constantly on the look-out for new ideas that will increase sales and cut costs, will doubtlessly want to know *why* Meyercord Decals are such a successful—and increasingly popular—method of product identification and decoration. Here are the main reasons:

1. For beautiful appearance Meyercord Decals are the nearest approach to hand painting. They can be produced in any design, size or color.

2. They can be applied at production line speed.

3. They are inexpensive to use — both as to material cost and application.

4. They're durable, do not tear or stain and can be made resistant to acid, alcohol, alkali.

5. Meyercord Decals can be applied with equal effectiveness on glass, wood, plastic, pottery, metal—on smooth or crinkled, flat or curved surfaces. For special products or finishes Meyercord's technical staff creates special production line application techniques.

6. They're washable, do not collect dirt and keep your product name fresh and bright.

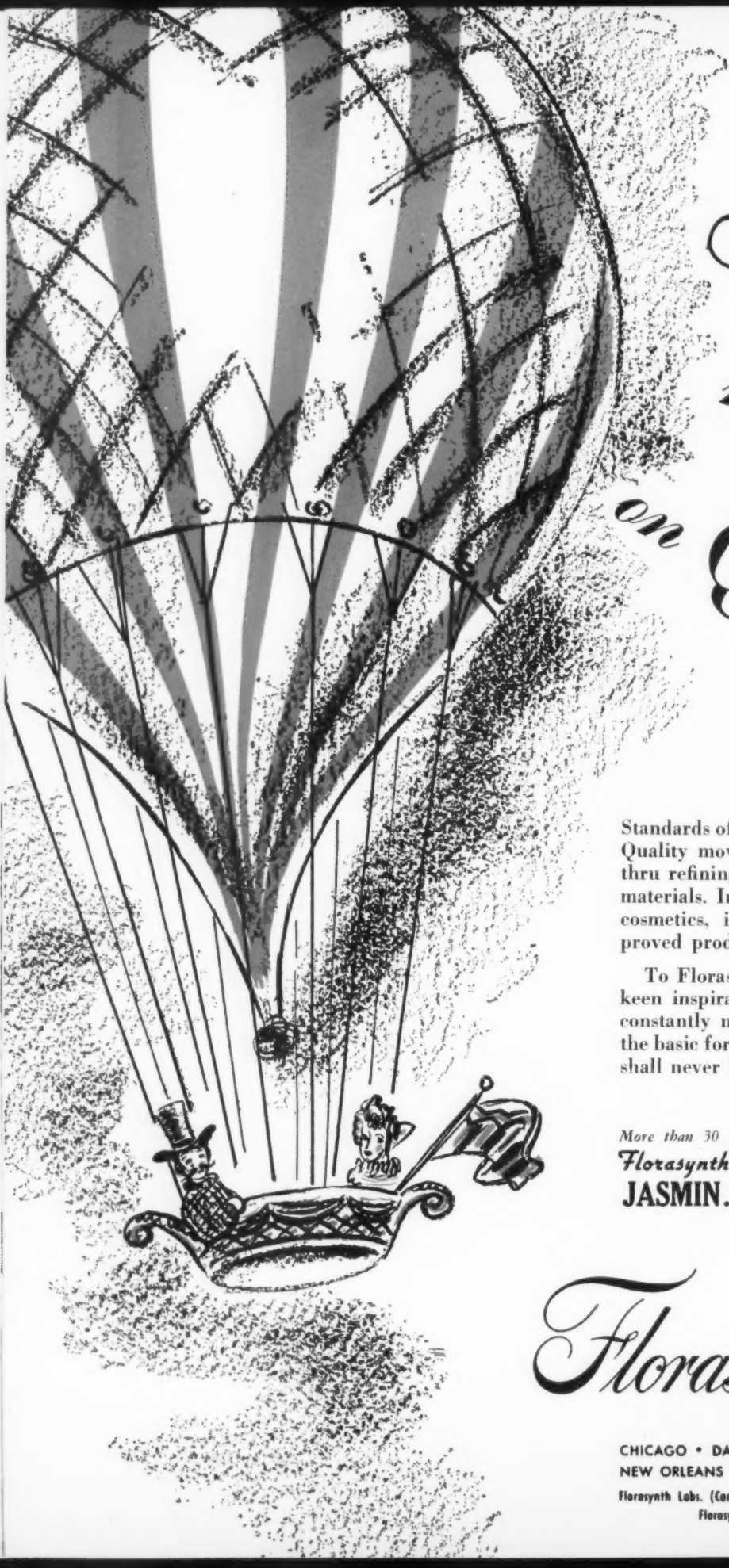
7. They're permanent "silent salesmen"—provide life-of-the-product decoration, identification and advertising.

Billions—yes, actually *billions*—of Meyercord Decals are in use throughout the world. Meyercord's designing and technical staffs are at your service, too—no obligation. For complete information on this modern method of product identification and its application to *your* product, write Department 6-6.

THE MEYERCORD CO.

World's Leading Decalcomania Mfr.

5323 West Lake Street, Chicago 44, Illinois



There is no ceiling on QUALITY

Standards of quality change gradually, definitely. Quality moves upward . . . thru research . . . thru refining and re-defining of ingredients and materials. In the manufacture of perfumes and cosmetics, improving standards make for improved products.

To Florasynth this is a constant challenge. A keen inspiration that spurs its personnel to be constantly more exacting . . . to reach beyond the basic formula . . . to recognize that one factor shall never be limited . . . QUALITY.

More than 30 years of amazingly successful reproduction of

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Extract Manufacturers Discuss Problems

Flavor manufacturers find government regulations more efficient . . . New developments in plastics and synthetic fabrics shown . . . Election of officers

THE thirty-fifth annual convention of the Flavoring Extract Manufacturers Association got under way on May 22, at the Hotel New Yorker, New York, N. Y., with an address by Lloyd E. Smith, president.

President Smith spoke of the alcohol situation, cardboard and containers, excise taxes, and suggested a procedure for coordinating governmental regulations among members.

John H. Hall, secretary, gave the association a report on the activity of the executive committee since the last annual convention, and made a financial report. He predicted legislation to tax food and drug retailers by individual states. He also discussed such subjects as post-war cancellation of allocations, elimination of price controls, and inflation or deflation.

Other reports which followed were by Leslie S. Beggs, treasurer; John H. Beach, in charge of advertising; and George M. Chapman, of the membership committee. There are at present 142 active, 90 associate, and 3 honorary members of the Association, for a grand total of 235.

FOOD COLORS

W. B. Durling, reporting on the food color situation was the first regularly scheduled speaker. He stated that artificial colors are available in ample supply.

VANILLA BEANS

Ray Schlotterer, speaking not so much as an individual, but as a representative giving a cross-section opinion of the industry gave an interpretation of the vanilla bean situation.

The Bourbon bean importation situation is really critical. Only two shipments have arrived since the outbreak of the war. There are large stocks of Bourbon beans awaiting shipment, but finding shipping space in the near future is problematical. There are 100 tons now enroute, but no exact delivery date can be given. From all appearances the Free French appear anxious to maintain control of stocks and prices.

Mexico has been active, and about three-fourths of its crop has already been sold. The bean crop this year is anticipated to be 275,000 pounds. The quality is good. Next year production will probably be down because of drought.

Tahiti beans have been coming in steadily, and a crop of 150 tons is expected this year. The price last year was lower than in 1941 or 1942.

The possibility of a lower price this year is remote, although vanillin acts as a safety valve in keeping the prices from going too high.

SUGAR SITUATION

According to Dr. Clarke E. Davis, the government has cut sugar consumption somewhat, but the population as a whole is not suffering.

Some industries feel that they are entitled to have their sugar base increased for special reasons. One example of this is the baking industry. Lard and eggs are glutting the nation's warehouses, and this fact is used by the bakers as an argument to have their sugar quotas increased as a means of using up surplus products.

Sugar imported into the United States during the first four months of this year amounted to 1,625,000 short tons. The beet sugar crop did better this year than last, amounting to 996,000 tons. Domestic cane sugar production this year will probably amount to about 500,000 tons.

Per capita consumption of sugar before the war amounted to 112 pounds, it is currently between 80 and 82 pounds.

GOVERNMENT REGULATIONS

Paul S. Willis, president, Grocery Manufacturers of America, stated that the O.P.A. and W.F.A. are both much improved in efficiency over their status of a year ago. O.P.A.'s pricing and rationing are better, and probably would be more so if they had more regional and divisional supervisors.

While it is not as generally known, the food industry has been on a par in efficiency with war goods manufacturers.

The food manufacturer's profits have been below the average for industry as a whole in the nation. As an example, the national income has more than doubled, going from 70 billion dollars in 1939 to an estimated 143 billion for the year 1943. Crops which the farmers produce have raised from a base of 89c. in 1939 to $1.81 in 1943; hourly wage rates in the food industry have increased from $1.00 in 1939 to $1.31 last year; and the finished food product from $1.00 to $1.34 in the same period of time.

Against this picture, and with the volume of business almost doubled, the manufacturer's margin of profit has dropped from 4½c. in 1939 to an average of 3c. at the present time. The food industry has had an increase of 13% in tonnage, and 83% in dollar value.

Using the last war as a warning, the industry should be careful of overstocking. At the outbreak of the last war the index figure stood at 78, at the end of the war it had risen to 143, and in 1920 it reached the high of 186. At this time the price broke and a resultant loss in inventories came to $11,000,000,000. Compared to this picture the prices today are nearly normal, so that a deflationary period is unlikely.

There is evidence that competition after the war will be stronger than ever. Advertising and selling will have a very important role.

William Fitzhugh, speaking on the paper situation, pointed out that although schools, boy scouts, and other

Shortages in Strawberries, Raspberries and Cherries

FLAVOR manufacturers faced with the present shortages in fruit will find a solution of their problems with

Imitation Strawberry No. 21

Imitation Raspberry No. 75

Imitation Cherry No. 105

These useful products may be used to augment natural fruit flavors, to create greater strength or to stretch the effectiveness of natural flavor, or—they may be used with success just as they are without any additions.

Write for working samples and full information.

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ESSENTIAL OIL AND CHEMICAL COMPANY, INCORPORATED

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agencies, aside from governmental activity, are working on salvage, they are not enough. To show that their efforts, and the publicity campaign, are not doing a thorough job, he indicated that a survey among the 36 to 38 million homes of the country, found about 1/3 not even aware that a paper salvage campaign was under way.

A clearly defined policy on paper in Washington is lacking. Furthermore, the black market situation is assuming serious proportions.

The current demand for paper is tremendous, but even with the requirements of war, the food industry is using 40% of production at the present time.

As serious as the situation is at the present time, it promises to get worse rather than better. There is an indication that the picture will improve within a few months.

CONTAINERS

The current container field was surveyed by J. E. Misenhimer. The usage of tin has been reduced to 40% of that of 1941. Tin is used in a much thinner film than was normally practiced, and in some instances has disappeared completely from the heads of tin cans. Steel conservation has forced conversion to non-metallic containers to the point where demand is running ahead of production capacity.

All types of containers are in an equally critical phase today, and no easement is in sight, particularly in cans, for the remainder of the year.

WAR FOOD REQUIREMENTS

The importance of food as a weapon was indicated by Gordon Peyton. He stated that food is the greatest weapon for war. As an example, it has been found that when the Germans have been forced to retreat so precipitously as to require abandoning equipment, they show a willingness to sacrifice anything except food. Whenever possible they always take food, leaving other types of equipment to be captured.

That the nation has been doing a good job is shown by the fact that food production has been greater so far by 20% than it was last year. The breakdown for farmer's food crops has been 51% meat, 52% poultry, 13% dairy, 60% truck and 6% fruit. This production may be effected this year by the wet and cold spring.

Of all food produced, 13% goes to the army, 75% to civilians. Of the food shipped to Russia on lend-lease, almost the entire amount goes to the army.

Manufacturers are requested to buy food in minimum quantities, and to keep inventories as low as possible. The War Food Administration has a book "Highlights on Population Shifts," on the radically shifted population of the country. Those who are interested may receive a copy of this 43 page book for the asking.

It has been the policy of the W.F.A. to make food orders only when necessary, and these are voided as soon as their purpose has been accomplished. In general an efficient job has been accomplished so far on production.

ALCOHOL

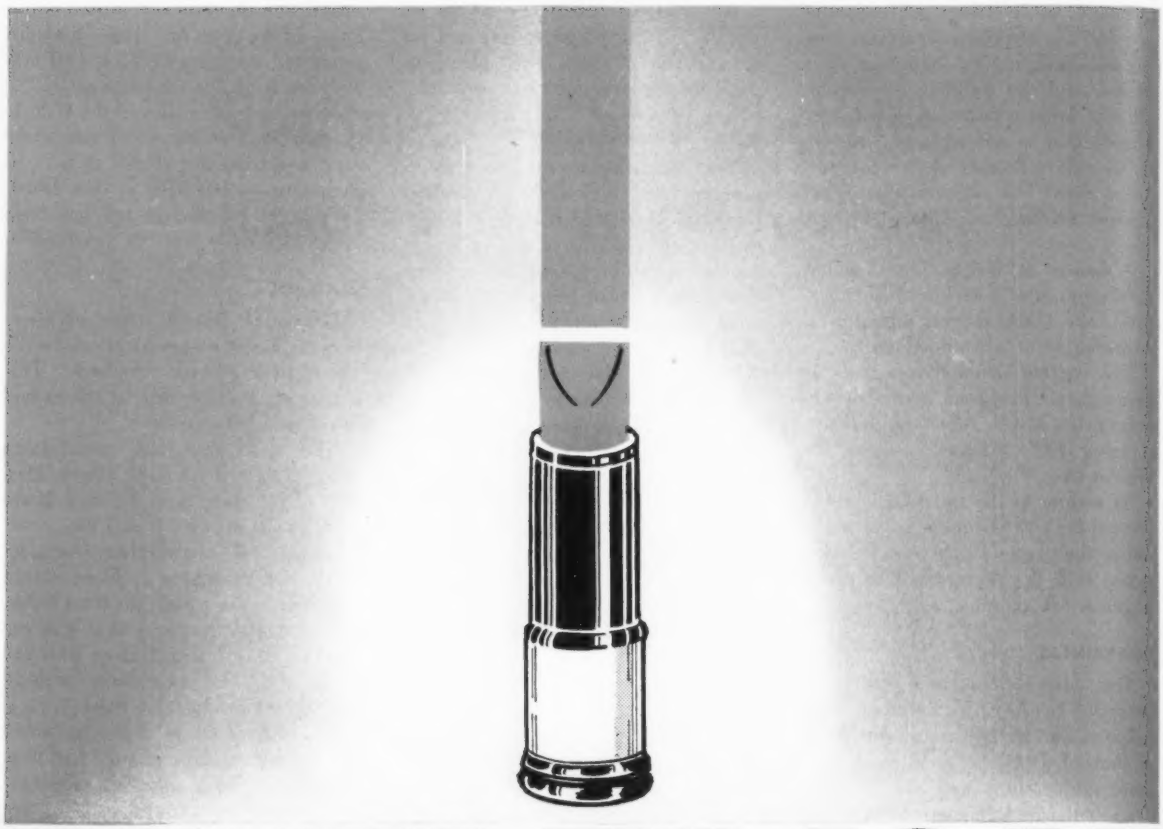
George H. Burnett urged all members to make a special effort to file claims promptly for drawback. This is true for both the district offices and the Washington office.

The new drawback regulations were explained by B. R. Rhees, Herbert P. McNally and Edward Bronfeld, of the Alcohol Tax Unit.

Regardless of whether manufacturers are interested in filing claims for a drawback of tax, the floor stocks tax is legally due, and if it was not paid on May 1 it should be filed immediately. The tax was not imposed on finished products on hand April 1, 1944, unfinished products in which some distinguishing change had been effected in the alcohol, or recovered spirits.

When a manufacturer reports two rates of drawback, at $3.75 and at $6.00 per proof gallon, the quantity of each class and the rate of drawback should be shown separately in supporting data. The claims

Flavoring Extract Manufacturers Association dinner



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HELFRICH Laboratories

for all calendar quarters shall be filed for all taxpaid spirits used during the respective quarter at the rate of $3.75 per gallon where the tax paid was $6.00 per gallon; or $6.00 per gallon where the tax paid was $9.00.

To establish liability for floor stocks tax and eligibility for drawback, the manufacturer should have prepared a complete inventory on April 1.

Manufacturers and exporters may file claims for drawback under Regulations 28, on domestic alcohol used in the manufacture of medicinal preparations and flavoring extracts. The claim may be made by either the manufacturer or the exporter.

GLASS CONTAINERS

C. L. Lightfoot reporting on the glass container situation, stated that basic raw materials are ample. If production lags it will probably be caused by a lack of adequately trained manpower to operate plants on a twenty-four hour basis.

The most serious governor on production is shipping cartons. Manufacturers are urged to place orders as far ahead as possible to enable plants to coordinate container, closure, paper and transportation schedules.

GOVERNMENTAL REGULATIONS

A. L. Kalish spoke on governmental plans for the industry. Unfortunately, his illuminating talk was off-the-record.

ESSENTIAL OILS

John Montgomery, in outlining the difficulties confronting essential oils manufacturers, with loss of sources of supply, and regimentation, gave credit to the scientists who are active in the industry.

It is only their findings during the past thirty years which have made it possible for the trade to carry on at all under present circumstances.

He expects that eventually authentic standards will be established for all oils of importance, and that these standards will be available to consumers for a check on materials.

John H. Hall

Dr. Clarke E. Davis and George M. Armor

HISTORY OF ALCOHOL TAXATION

The story of taxes on distilled spirits, discussed by A. K. Barter, is one which has had no set pattern.

The principle of the drawback was applied in the year 1794. In 1815 distillers were required to furnish bonds and keep records for the first time.

During the Civil War period the tax was $2.00 per gallon, and this fell to 50c. in 1868. Beginning with 1894 non-beverage manufacturers were given preferential treatment.

Present uncertainties are attributed more to industry than to governmental inefficiency. However, the past two years have shown progress in the differentiation of alcohol for use in flavoring as compared to other uses.

Little information is on hand of the uses of alcohol, aside from flavoring, so other groups should be approached in an effort to arouse their interest.

NEW PRODUCTS

New developments in plastics, synthetic fabrics and chemicals accelerated by the war, which may profoundly affect the life and economy of this nation were shown by L. F. Livingston, E. I. du Pont de Nemours & Co., at the conclusion of the dinner Monday evening. With the possible exception of the newer plastics, which will be made available after the war, few of the products shown are of interest to the industry.

ELECTION OF OFFICERS

The following officers were elected to head the Flavoring Extract Manufacturers Association for the coming year:

President, Garret F. Meyer, Warner-Jenkinson Mfg. Co., St. Louis, Mo.

First vice-president, William B. Durling, William J. Staange Co., Chicago, Ill.

Second vice-president, George M. Chapman, Liquid Carbonic Corp., Chicago, Ill.

Third vice-president, Clark C. Nowland, George H. Nowland Co., Cincinnati, Ohio.

Treasurer, Leslie S. Beggs, The Styron-Beggs Co., Newark, Ohio.

Secretary, E. L. Brendlinger, The Dill Co., Norristown, Pa.

Advisory Committee: Leland P. Symmes, Baker Extract Co., Springfield, Mass.; George M. Armor, McCormick & Co., Baltimore, Md.; George H. Burnett, Joseph Burnett Co., Boston, Mass.; and Dr. Clarke E. Davis, Virginia Dare Extract Co., Brooklyn, N. Y.

Executive Committee: Lloyd E. Smith, Virginia Dare Extract Co., Brooklyn, N. Y.; Frank W. Green, National Aniline & Chemical Co., New York, N. Y.; John H. Beach, Seeley & Co., New York, N. Y.; and John N. Curlett, McCormick & Co., Baltimore, Md.

General Counsel and Executive Secretary, John H. Hall, Chicago, Ill.

Milton Martin

Lloyd E. Smith

A. L. Kalish

George H. Burnett, John H. Beach, Leland P. Symmes

Since 1865

ESSENTIAL OILS
of highest quality

PERFUME COMPOUNDS
for every purpose

FRUIT FLAVORS
all types

CERTIFIED COLORS
food and cosmetic

Your inquiries solicited

Tenemos catalogo y lista de precios en castellano y con gusto se la enviaremos.

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ESTABLISHED 1865

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PERFUME COMPOUNDS, COLORS, FLAVORS, WATER SOLUBLE GUMS
AROMATIC CHEMICALS, ESSENTIAL OILS, OLEORESINS, ETC.

Market Absorbs Mexican Vanilla Beans

Mexican vanilla bean cuts are beginning to arrive in this country and so far the quality is reported to be good. Unfortunately there is a delay in the shipments coming forward.

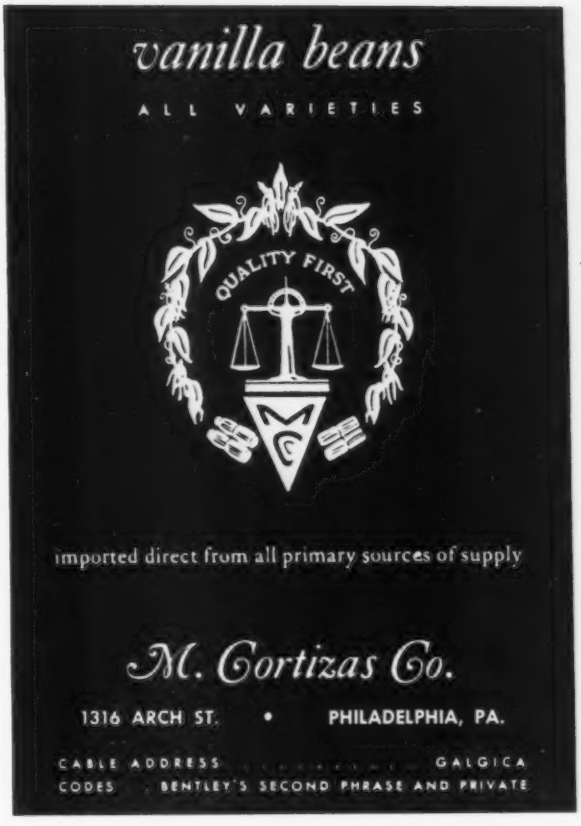
Considering that during the next two months about the only type of vanilla that will be available will be Mexican vanilla it looks as though the market will be quite firm and we could have, at least temporarily, a slight increase in price.

Reports that have come through lately indicate that the weather has been quite dry and this could have an effect on next year's crop.

Vanilla Bean Shipment Expected

The shipment of about 115 to 120 tons net of Bourbon vanilla beans has been approved by the War Shipping Administration and as there are several boats each month at a South African port it is likely that the beans may leave the port before July 1. This shipment will come direct to the United States.

The approval of the shipment was due to the work of the Vanilla Bean Association, the Flavoring Extract Manufacturers Association, and officials of the Department of Agriculture and the War Production Board. If conditions are favorable the shipment of beans is expected to arrive in August.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CODES BENTLEY'S SECOND PHRASE AND PRIVATE

Post-war Help for Small Business

Senator James E. Murray, Democrat, of Montana, has introduced in the Senate a new bill which promises to have far-reaching effects on the average small business man after the war. He proposes that the Smaller War Plants Corporation be greatly enlarged in authority and scope, to provide a wide plan of assistance to small business under the name Small Business Corporation.

Senator Murray is chairman of the Senate Small Business Committee. He intimates that the new legislation is the most important measure for the benefit of small business to come before Congress in several years. Its purpose is to establish a national policy to preserve and expand independent small business as "essential to an economy of free enterprise."

"Full and equal opportunity for participation, in the war and post-war economies, must be assured if wartime levels of production and employment are to be maintained in the reconversion period and thereafter."

Some of the bill's provisions are: the creation of the office of Assistant Secretary of Commerce for small business; an increase in capitalization to $1,000,000,000 of the Smaller War Plants Corporation, much of which would be used in the purchase of war plants and supplies for resale to small firms; the extension by the government to small business of patent rights acquired by the government; and a broad program of technological research in government laboratories and private institutions for chemical and engineering advancement to be made available to small business.

"Small business must be given a voice in the highest government-policy councils during the period of reconversion," Senator Murray stated. "The only hope for full employment and prosperity in the post-war period lies in the strengthening of small business enterprise. This bill will provide small business ready access to credit to supply its needs in the transition from a war to a peace-time economy."

Toiletries and essential oils

The value of shipments of perfumery and preparations into Australia increased about 30 per cent during the fiscal year 1942—from £171,466 in the year ended June 30, 1941, to £225,341 in the year ended June 30, 1942, according to a Canadian Commercial journal; imports of essential oils (nonspirituous) decreased in value approximately 18 per cent—from £173,922 to £141,942.

The greatest increase in the drugs-and-chemical group of exports from Australia in the corresponding periods was in "perfumery and preparations" products, which increased from £184,780 to £388,178, according to the same source.

Three years ago 20% of women felt that they could afford to pay more than $5.00 for a permanent wave, now that figure has jumped to more than 80%. In 1942 one in ten managed to pay over $7.00 for hair care.

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WASHINGTON PANORAMA

by ARNOLD KRUCKMAN

IF words still mean what they have meant, the most urgent action that confronts every member of this industry (as well as every other industry, business, trade, and service of the United States) is to become thoroughly and intimately acquainted with every detail of the latest Directive issued by Chairman Paul V. McNutt of the War Manpower Commission to ALL Regional Directors, everywhere, "directing *all male workers to jobs which will permit a better allocation of available male labor.* This amendment to Regulation 7, effective May 22, will make it possible for a regional director to control placement of men (in all areas) in *non-essential* or even in essential activity. This program is in keeping with the established principle that ALL persons have an obligation to engage in work most directly affecting the war program. Another amendment to Regulation 7 *limits the number of workers* or specified types of workers that may be employed in an establishment during specified periods."

Rep. William J. Miller, Connecticut, discussing the Directive on the Floor of the House, June 1, said: "The plan is to be put into full force and effect throughout the United States on June 4th. I predict in the near future every Member of the House will have a heavy mail dealing with the regulations of the War Manpower Commission. I am not a lawyer, but if I understand the language of our Constitution, such regulations are clearly unconstitutional. *These regulations are simply invoking the purposes of a National Service Act without waiting for Congress to pass such an act.*" These words are printed on page 5246 of the Congressional Record on June 1, 1944.

The plan is now in full operation in a number of cities and areas. Regional Directors are empowered to extend its operation as rapidly as they see fit. Baltimore is generally regarded as the best example of its present operation. Basic hiring procedures in Baltimore require that no employer *shall* (mandatory) hire any individual except upon referral by, with the consent of, or in accordance with arrangements with the United States Employment Service of the War Manpower Commission. The Area Director may issue regulations governing hiring procedures, placing workers on jobs, priority of their placing or referral, and establishment of employment ceilings fixing the upper level of employment beyond which an individual employer may not hire. Specific rules are laid down for the employer which he must follow. In case the employer fails to provide a certificate of availability the USES is empowered to do so. The worker must remain upon the job until he receives the certificate, and he can leave a job only with permission of the USES. The employer must have these certificates on file for each worker for examination by WMC investigators on demand; recently a number of industrial units have been meticulously checked to ascertain that each employee in the plant or business is validated by a certificate. In his address on June 1, Congressman Miller stated in each case the employer is given a set ceiling on the number of persons he may employ. "If he exceeds his ceiling *or hires any one without a referral slip from the USES*, he is liable to a $1,000 fine." Trade Association officials have been informed by WMC personnel that employers who disobey the regulations may be punished by "sanctions," such as cancellation of quotas of supplies, of gasoline, of OPA protection, and certificates of war necessity which enable plants to obtain tires and other necessary materials. It is also considered possible that those who work upon war contracts, either directly or indirectly, or sell materials to the Government, may be penalized by certain withdrawals.

The regulation controls the number of hours a worker may be employed, and certain wage minima are fixed. The worker is guaranteed the right of representation by his labor union. No worker may be employed without specific written permission supplied by the Government. The flow of workers to various individual establishments locally is determined by Manpower Priorities Committees, composed of representatives from WMC, SSS, Navy, Army, Aircraft Resources Control Office, Maritime Commission, ODT, Civil Service Commission, WFA, and War Shipping Administration. At frequent meetings these Committees determine the comparative essentiality of the products or services of an establishment, the actual need for manpower, and the supply of manpower in an area. The various establishments are given priority ratings for manpower in the same way as they are given priorities for materials. In Baltimore no employer "shall" hire more workers than he had on his payroll on any one day during the period between April 15 to May 1, 1944. The ceiling may, of course, be raised or lowered, according to the judgment of the Manpower Priorities Committee. The employment ceiling regulations apply to ALL establishments *which hire eight or more workers.*

There also now is in effect a mild form of labor draft in relation to the registrant older workers. Older draft registrants, including 4Fs, who have been deferred for reasons other

than occupational limitations, may now be reclassified as 2-A or 2-B, which is designed to prevent them from switching jobs without permission of their draft boards. Each time the worker changes jobs he must be reclassified, and in any instance, if his reasons do not seem sufficient to the draft board, he may be placed in 1-A classification.

Areas, such as the Pacific slope, have lost workers who have moved back East to be on the spot when peace-time employment gets under way. This shift has denuded areas of badly needed help. The Navy needed 3,000 for a special job in San Diego, and after a month's campaign in all parts of the country had received only 30 applications. The need for workers on the Pacific slope, for instance, runs into six figures. McNutt's hope seems to be that the new "labor draft" program will impel many workers to migrate to the areas where workers are needed. Lt.-Gen. Brehon B. Somervell has served notice that Army and Navy will need another 1,500,000 men by Fall. These also must come from the present men employed in industry. Thus the gaps will grow larger. Incidentally, all those, male or female, honorably discharged from service, are entitled to re-employment, with full *accumulated* seniority, if they apply for re-employment within 40 days after discharge, or transfer to inactive status. These workers may not be discharged within one year without adequate cause. Conscientious objectors have no rights for re-employment.

The other driving concern of this industry is the supply of containers. The problem was practically the sole subject of discussion at the meeting of the WPB Toiletries and Cosmetics Industry Advisory Committee on May 31. At the meeting, headed by Chief Elmer Tysdal, Cosmetics Section, WPB, were present Frank M. Allen, National Toilet Company; B. F. Breslauer, A. Breslauer Company; Joseph F. Danilek, Cosmetiques-Tussy; Paul H. Douglas, Bourjois, Inc.; Dr. Ralph E. Evans, Ralph E. Evans Associates; Jule Gordon, Nestle-Lemur Co.; Manning O'Connor, Colgate-Palmolive-Peet Co.; Dr. John H. Wallace, Jr., Carter Products, Inc.; Northam Warren, Northam Warren Corp.; J. S. Wiedhopf, Parfums-Ciro, Inc. As a result of the six-hour discussion the Committee recommended the report of its Task Group be withdrawn. In its place the Committee suggested omission of everything tending towards use of paperboard for display or superfluous packaging, or any program that would encourage heavier paper than is now generally encouraged by WPB. Special emphasis was placed on the need to use containers no larger than required for the product; and to eliminate boxes with extensions unless the extensions are made by simple conversions in the box itself. An amendment to Order L-239 has been under consideration for some time. The shortage of paperboard is so great, and is growing so rapidly, that it seemed probable there might be further drastic reductions or complete eliminations. There is little doubt there will be some slimming down in the supply of set-up boxes. But it is now felt by Mr. Tysdal, and the members of the Task Group, that the Container Division will permit the supply of set-up boxes for those products whose merchandising would be seriously impaired without them. The recent revision of L-317 which covers corrugated fibreboard shipping containers left the toiletries and cosmetic industry untouched. With the deep cuts suffered by other users, and the additional restrictions placed on many food products, representatives of the industry in Washington deem the toiletries and cosmetic industry in a better position. There is no change in the priority rating fixed for the supply of shipping containers under P-146. The industry still remains in the AA5 catch-all group. Dentifrices have the advantage of AA3 rating. Those who have difficulty in securing shipping containers for dentifrices can obtain relief by making application on Form WPB-2408, sending it to War Production Board, Ref. P-146, Washington, D. C. If a duplicate copy is sent to Elmer Tysdal, Chief, Cosmetics Division, Chemicals Bureau, War Production Board, Washington, D. C., he will see that the application is not lost "in channels."

By the time this is published it seems very certain the long expected shipment of lemon oil from Italy will be in the United States. How it will be applied in relation to the over-all problem of lemon oil is still rather vague. The Government need of the product is still pressing. However, it is anticipated this urgency may fall to negligible proportions during the third and fourth quarters. The general assumption is that the supply for civilian needs will be approximately 50% of normal. WFA, which has general control over the destiny of lemon oil and other essential oils used in foods and flavors, is presumed to have arranged for the distribution of the lemon oil for domestic purposes through the normal channels of commerce. It is probable, however, that the historic basis may be by-passed. WFA itself has much sympathy for the premise that established distributing units, and established users, should receive the supply available. Congress, on the other hand, has let it be known in no uncertain terms that it does not subscribe to the historic basis, and that it expects Government agencies to deal with commercial units which have come into existence during the war the same way as they deal with those who were in existence before the war. From Brazil comes word that it has a generous surplus of orange oil which it has not been able to sell to American buyers despite low prices, virtual elimination of export duties, and concessions on transport costs. The word is that bergamot is coming out of Italy, but that the essential oils in North Africa have not been easy to obtain. It is assumed preparations are in progress to put the industry in operation again over there.

Need for anti-freeze compelled Chemicals Bureau of WPB in May to deny all supplies of isopropyl alcohol for cosmetics and toiletries. The scarcity is expected to continue until late Fall. Either in September or October it is anticipated the restrictions will be relaxed and there will be more isopropyl alcohol for the industry. Ethyl alcohol continues tight, and no relief is in sight. Certain technical changes have been ordered in the method of applying for glycols used in cosmetics, dentifrices, mouth washes, and flavors. For details write War Production Board, Chemicals Bureau, Ref. M-300-15, Washington 25, D. C. From India the Department of Commerce brings word all prices of toilet preparations have soared, soaps having gone up as much as 138 per cent over 1941.

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U.S.I. CHEMICAL NEWS

June ★ A Monthly Series for Chemists and Executives of the Solvents and Chemical Consuming Industries ★ 1944

Wide Potentialities Pictured for U.S.I.'s Ethyl Chloroformate

Product's Reactivity Facilitates Numerous New Organic Syntheses

Two factors are currently combining to rouse new interest in ethyl chloroformate (ethyl chlorocarbonate), a product which U.S.I. has been manufacturing on a commercial scale for many years. First of these is the broad range of synthetic possibilities opened up by recent investigation of the reactions of this unusual compound. Second is the lowered cost, resulting from improvements in equipment design and process control.

Major Uses

Among the older and better known uses of ethyl chloroformate are the production of flotation agents for ore refining and the synthesis of ethyl carbonate by a special process developed by U.S.I. Newer uses, demonstrating the extreme reactivity and versatility of ethyl chloroformate, include the following:

1. With ammonia it gives urethan; with hydroxylamine it gives N-hydroxy-urethan; with hydrazine hydrate it gives ethyl bicarbamate; with urethan or sodium urethan it gives ethyl imidodicarboxylate; with ethyl imidodicarboxylate it gives ethyl N-carbethoxy-imidodicarboxylate; with urea it gives ethyl allophanate and cyanuric acid; with guanidine it gives ethyl guanidine dicarboxylate; with sodium cyanamide or with cyanamide in concentrated caustic soda solution it gives ethyl cyanamidedicarboxylate.
2. It condenses with metallic sodium and ethyl iodide to give ethyl secondary-butyl ketone and other products.
3. It reacts with phenyl magnesium bromide to give ethyl benzoate and triphenylcarbinol; with ethyl magnesium bromide it gives triethylcarbinol; with alkyl magnesium bromides it also gives ethyl alkylcarboxylates.

(*Continued on next page*)

Other Chloroformates

Production of chloroformic acid esters of methyl, propyl, butyl, and amyl alcohols has been carried out successfully on a pilot plant scale in U.S.I.'s laboratories. While these products are not now in commercial production, inquiries concerning them will be welcomed.

Innovations in Chemical Usage Help Create New Paper Products

Finishing and Coating Patents Reveal Many Novel Applications for Solvents, Plasticizers, and Resins

Parachutes of rain-resistant paper "deliver the goods" to isolated troops. Paper paint containers "pinch hit" for tin cans. Waterproof paper "wraps" protect everything from aircraft engines to blood plasma. In scores of dramatic ways, new paper products take their places among the significant technological developments of the war.

Paper parachute at work.

In many present-day developments in paper finishing and coating, U.S.I. solvents, resins, and other chemicals are finding novel uses. Zein-alcohol solutions, for example, are used to waterproof wrapping paper. Sealing and coating processes utilize phthalates as plasticizers. In paper coatings, especially where oil and grease-proofing are required, U.S.I. alkyd resins are employed. And, of course, in a variety of processes, acetates, alcohols, and acetone are the key solvents.

Postwar Possibilities

In much of the progress promised for tomorrow, moreover, U.S.I. products seem destined to take an even more prominent part. Here are a few patents culled from recent literature which show the trend:

*A method to prevent discoloration of vinyl resin papers by heat entails the addition of the calcium chelate derivative of ethyl acetoacetate.

*For paper of high wet strength, a new product is added to the paper-making stock, and the mixture acidified with alum. The paper is then formed and heat-treated dry. The product involved is made by reacting glue and formaldehyde, and using ethyl alcohol to arrest the reaction just short of the gelling stage.

*Fusible, flexible, water-impermeable coatings for bread-wrapping paper are prepared using a neutral resin, diamyl phthalate, paraffin wax, and the reaction product of manganese oxide and dammar gum.

*Another moisture-proofing patent covers the treatment of regenerated cellulose with a mixture of ethyl cellulose, paraffin wax, ester gum, etc., using toluene and alcohol conjointly as the solvent.

*Still a third patent in this field includes the use of dibutyl phthalate as plasticizer for vinyl resin compositions.

(*Continued on next page*)

Predicts Adequate Supply of Super PYRO Anti-Freeze

Faced with the prospect of keeping the "old bus" going through another war winter, motorists will welcome U.S.I.'s recent announcement that Super PYRO can be expected to be available this Fall in about the same quantity as last year.

Particularly important in these days when new radiators, and even repairs, are difficult to obtain, Super PYRO affords an extra margin of safety in its high heat resistance and unique rust prevention features. Despite warm spells and sustained engine heat, Super PYRO stays on the job, seldom requiring replacement; it's always ready for sudden cold snaps.

Vitamin B_1 Repels Mosquitoes; Reduces Itching from Bites

Dramatic results have been obtained in the treatment of individuals severely affected by mosquito bites, according to reports in a recent issue of Minnesota Medicine. Tests showed that heavy initial doses of thiamin chloride, followed by smaller regular doses, not only reduce itching, but actually make the individual repellent to mosquitoes.

One case history was that of a man abnormally affected by mosquitoes. Before a fishing trip, he took three 40 mg. doses of thiamin. While other members of his party were bitten ferociously, he was bitten but a few times, and none of the bites were troublesome. Size of dosage in other cases varied widely, depending on the individual treated.

Preparing shells to be hurled against the Japs. Note the discarded paperboard containers in which individual shells are protected right up to the point of use.

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June ★ **U.S.I. CHEMICAL NEWS** ★ 1941

Stabilizes Thionitrites in Diesel Motor Fuels

The effectiveness of thionitrites in improving the ignition properties of diesel fuels is well established. The difficulty has always been in the instability of the thionitrites after addition to fuel, where the presence of higher oxides of nitrogen tend to accelerate their decomposition.

Recently granted patents describe a method of stabilizing these thionitrites by the addition of small quantities of ethyl acetoacetate or similar compounds.

New Process Deodorizes Vitamin-Bearing Fats

Removal of objectionable tastes and odors from fat-soluble, vitamin-containing materials of the fish oil and fish liver group is the objective of a recently patented process.

The vitamin-bearing material or concentrate is first mixed with a natural antioxidant—containing substance such as vegetable oil. This mixture, dissolved in an alcohol, ester or ketone solvent, is cooled to a temperature at which layers form, separating the solvent concentrate from the insoluble residue.

Objectionable ingredients are then removed by heating the extracted concentrate, under reduced pressure.

Ivy Poisoning Responds to Extract Treatment

Excellent results have been obtained in the treatment of ivy poisoning by injecting an extract made by steeping powdered ivy leaves in absolute alcohol, according to a recent article in the Military Surgeon. The extract is said to retain its effectiveness and brilliant green color indefinitely.

"Tackifying" Synthetic Rubber

A new patent covers a method for imparting "tack" to certain types of synthetic rubber. The process involves the application to the surface of the rubber a solution of alkyl phthalyl glycolate in an organic solvent such as acetone, ethyl acetate, ethylene dichloride, or acetone and isopropyl chloride.

Ethyl Chloroformate

(Continued from preceding page)

4. With allyl iodide in the presence of zinc, it gives among other things triallylcarbinol.

5. With metal compounds of alkylacetylenes it gives ethyl alkylacetylenecarboxylates.

6. With alcohols or alcoholates it gives neutral alkyl carbonates—either mixed ethyl carbonates, or di-substituted alkyl carbonates; with quinine there results quinine ethyl carbonate.

7. With phenol it gives ethyl phenyl carbonates and ethyl salicylate.

8. With sodium sulphide there results dicarbethoxy sulphide; with sodium ethanethiol there results ethyl thiolcarbonate.

9. With ethyl sodium malonate it gives ethyl methanetricarboxylate; with ethyl sodium methanetricarboxylate it gives ethyl methanetetracarboxylate. With ethyl sodium acetoacetate there results much O- and a little C-ethyl carbethoxyacetoacetate; with ethyl sodium cyanoacetate it gives ethyl cyanomalonate; with sodium benzoate it gives ethyl benzoate and benzoic anhydride; with sodium ethylene glycol it gives diethyl ethylene dicarbonate, from which ethylene carbonate can be obtained; with potassium cyanate there results carbethoxy isocyanate, and, depending on the conditions, the tricarbethoxy derivative of isocyanuric acid, and also the triethyl, the diethyl carbethoxy, and the ethyl dicarbethoxy derivatives of isocyanuric acid.

10. It reacts with benzene in the presence of aluminum chloride to give ethylbenzene.

11. With bromobenzene and sodium amalgam it reacts to give ethyl benzoate.

12. With acetone and potassium cyanide there results O-carbethoxy-alpha-hydroxyisobutyronitrile.

13. With phenol carboxylic acids and alkali there result carbethoxy derivatives.

New Paper Products

(Continued from preceding page)

*In amino-acid-diamine-dibasic acid interpolymers used for coating paper, an alcohol-water mixture serves as the solvent.

*To improve the flexibility of abrasive paper, ethylene glycol is added to the bonding material.

*In a paper-coating composition comprised of cashew-nutshell liquid and urea-formaldehyde resin, butyl alcohol is used as the solvent. This coating is claimed to be especially suitable for lining the caps of food and other containers, and for electrical insulation.

TECHNICAL DEVELOPMENTS

Further information on these items may be obtained by writing to U.S.I.

Colored plastics can be produced by dipping acrylic and acetate plastics in a newly-developed dye, it is reported. The new dye is offered in 12 colors, including red, yellow and blue. **(No. 817)**

U S I

A paint and varnish remover, which comes as a water soluble, non-inflammable, semi-liquid material, is recommended by the manufacturer for use on metal, wood, plaster, and fabric. Because of the slow-drying property claimed for it, the new product should be good for large areas, while its run-proof properties recommended it for use on vertical surfaces. **(No. 818)**

U S I

A new sealing tape, said to be waterproof and suitable for use on various containers, has been developed. This new paper tape, when applied with the special solvent which comes with it, is claimed to become absolutely water-tight 72 hours after application. **(No. 819)**

U S I

A permanent ink, for use on glass and ceramic surfaces, is announced. The new product is applied with a writing pen or fine brush and may be stored in ordinary cans or bottles. The ink, when dry, is reported to be unaffected by soapy water and most solvents, and to be non-corrosive, non-inflammable, and non-poisonous. **(No. 820)**

U S I

A new synthetic rubber, reported to remain flexible at extremely low temperatures, is now being manufactured. In securing this cold resistance, however, some sacrifice of tensile strength and oil resistance is entailed. **(No. 821)**

U S I

A new lanolin replacement, suitable for use as a base in pharmaceutical and cosmetic manufacture, is announced. The new base can usually be employed without changing formulas or processes, says its maker. **(No. 822)**

U S I

A new disinfectant, of interest for use in surgical and gynecological procedures has been developed. Among the features claimed for the product is the fact that it can be used by pharmacists in preparing low-cost aqueous dilutions. **(No. 823)**

U S I

Repairs of rubber belts can be effected with sections of belting made from the new GR-S synthetic rubber, according to a rubber manufacturer. The synthetic and natural rubbers are joined by a vulcanized splice, using standard vulcanizing materials. **(No. 824)**

U S I

Protection against corrosion and fungi, for electric equipment, is said to be afforded by a new liquid compound which may be applied by brush or spray. The product is reported to have good adhesion, high dielectric strength, and an effective temperature range from minus 50 F to plus 350 F. **(No. 825)**

U S I

Cleaning and polishing copper, chrome, nickel and other surfaces can be accomplished in one operation, say the makers of a new acid-free metal polish. **(No. 826)**

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War Check List—Government Regulations

Digest of Federal rules and regulations on price control, allocations and other regulatory measures of cosmetic, soap and flavoring industries issued or proposed during the past month

Paperboard sold east of the Rocky Mountains

On purchases of paperboard where maximum prices are established, buyers may not pay any person a broker's fee, or any other commission for any service in acquiring the paperboard.

Government help obtainable on package design

Manufacturers who are forced to redesign packages, because of paper shortage, may obtain help by writing the Technical Staff, Paperboard Division, WPB, Washington, 25, D. C.

Restrictions removed on some fats and oils

Restrictions have been removed on the use of castor oil, WFO-32, and of sperm oil, WFO-37. However, where violations have occurred restrictions remain in effect for the purpose of sustaining suit.

Phenolic resins and compounds placed under restrictions

Under this new ruling suppliers of phenolic resins or moulding compounds are forbidden making delivery except on written authorization from the War Production Board.

Purchasers are required to attach a certificate to orders specifying to what purpose the resin is to be put.

Both the supplier and manufacturer will be required to file reports with the War Production Board, Chemicals Bureau, Washington, 25, D. C. Order M246.

Inventory limitations on tallow and grease suspended

High production of tallow and grease has resulted in a supply sufficient to permit temporary suspension of War Food Administration of the inventory limitations placed on producers, dealers and consumers under Order 67.

This suspension will remain in effect during June and July. Previously, inventories were limited to 90 days.

Control over beauty and barber treatments sought by OPA

A draft of an amendment has been submitted by the Office of Price Administration whereby the agency will be empowered to place a ceiling on beauty shop treatments, and barber shop services. Under the present law services of this type are not subject to price control.

Importers of natural menthol ceiling prices

Importers of natural menthol who contracted before May 17 to buy materials above ceiling prices, may apply for a special ceiling price for their resales.

Fatty acids inventories restrictions lightened

War Food Order 87 has been revised to users of fatty acids to accept deliveries of maximum units of fatty acids at any time, provided his inventory does not exceed a 30-day supply at his current rate of consumption.

His permissible inventory has been increased to 12,000 pounds. "Maximum unit" means the largest single quantity accepted during the year 1943.

Shipping container quotas are tightened

Limitations order L-317 has been amended in an effort to decrease the quantity of new containers which may be purchased by high preference ratings, thereby easing the situation for other classifications, such as the cosmetics industry.

The order has been rewritten so that the limitation applies to both acceptance and use. Each order must be accompanied by a certificate in the following form: "The undersigned purchaser certifies, subject to criminal penalties for misrepresentation, that he is familiar with Order L-317 of the WPB, and that the fibre shipping containers (or reshippers) covered by this purchase order will not be accepted or used in violation of the terms of that order."

Quotas for this industry are given by percentages: Cosmetics, hair tonics, toilet sets, hair dressing preparations, perfume and toilet preparations are limited to 60%; dentifrices to 70%; of the base year, which, with few exceptions is 1942.

Regulations on use of glycerine lifted

Because supplies of glycerine are adequate to meet current needs, WFA has revoked War Food Order No. 34, which regulated the use of the product prior to April 1, and since that time has required monthly reports. Revocation of the order makes the filing of these reports unnecessary.

Lard and pork fat off quota until June 30

Lard and rendered pork fat purchased and delivered before June 30, may be used at any time in soap manufacturing without charging such use to quotas fixed by WFO-42. When so purchased and delivered they will be free of inventory limitations.

Miscellaneous tax unit rules on lip pomades

Lip pomades, intended for toilet purposes through the use of scent or color, or which are advertised as being for this purpose, are subject to tax imposed under section 2402 of the Internal Revenue Code. However, camphor ice in white, with no ingredient to neutralize the odor, and advertised as being for medicinal purposes, is not taxable under the Code.

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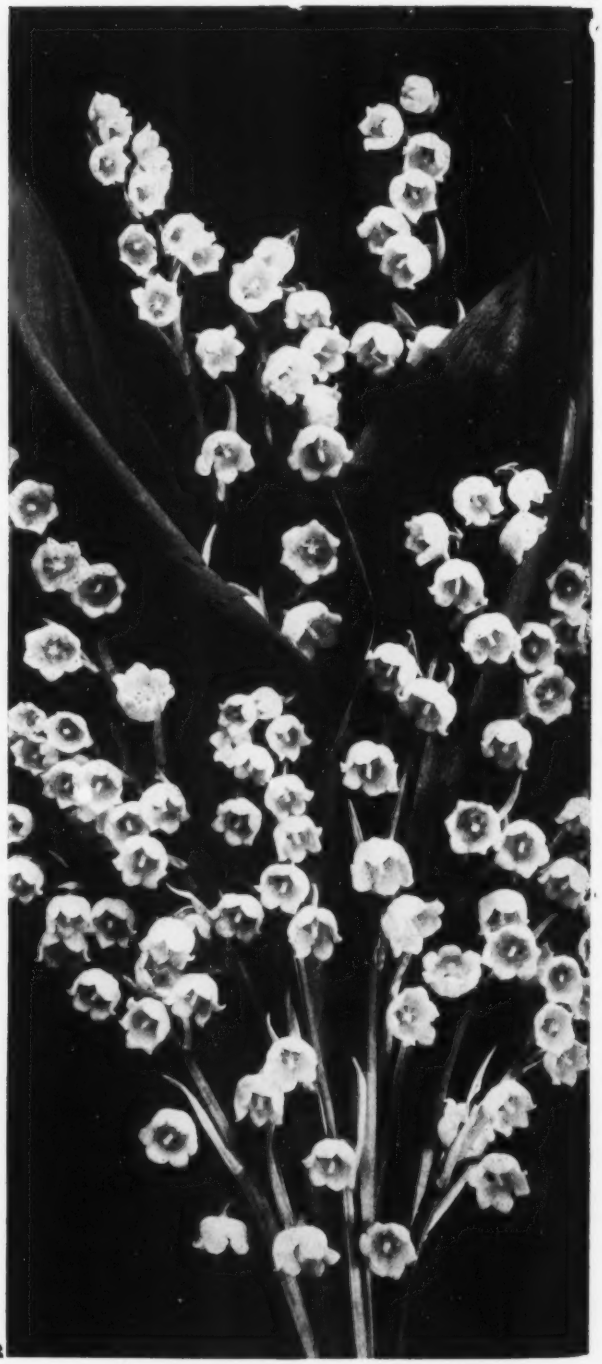

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New Products, Ideas and Processes

Spraying and enameling service

Alcohol resistant spraying, enameling and baking service for closures, bottles, jars, wood and plastic containers is offered by Jesselson Sales Associates, 347 Fifth Ave., New York, N. Y. The service also includes spraying and enameling lipstick and all other types of containers. The advantage of this method, the concern points out, lies in the fact that it enables cosmetic manufacturers to secure uniform colors which are identified in the mind of the public with a particular brand of cosmetics. Full information about the service may be had by writing to the company.

Deodorizing isopropyl alcohol

By means of a special process which it developed and controls, Rodex Laboratories, 42-64 Crescent St., Long Island City, 1, N. Y., deodorizes and purifies isopropyl alcohol in such an effective way that it is said to be suitable for the most delicate perfumes. The process is stated to be inexpensive and full details about it may be had by writing to the company.

Propylene Glycol N.F.

Propylene glycol is fast gaining recognition as a capable substitute for war vital alcohol in certain food and cosmetic processing according to the Dow Chemical Co., Midland, Mich. In beverages such as root beer and ginger ale and in types of liquid cosmetics the solvency and preservative qualities of propylene glycol have been clearly demonstrated it is pointed out.

In addition, the use of this product results in appreciable saving in material cost. It has value in foods as an humectant and it is said to guard flavoring materials against mold growth. In cosmetics particularly, the company points out that it supplements its preservative qualities with use as a carrier, emollient and humectant and is a fine softening and soothing agent. Furthermore, it is added, manufacturers express interest in the fact that it imparts a totally different feel and texture to lotions, creams and similar products.

Present production of propylene glycol N. F. is adequate as it is a primary product and is not dependent on other manufacturing operations for maintenance of a steady supply.

New Type Skat on the market

Now that mosquito, fly, chigger and insect pest time is here, Skat has placed a new product on the market.

It differs from the old Skat in being odorless, and affords protection for a longer period of time.

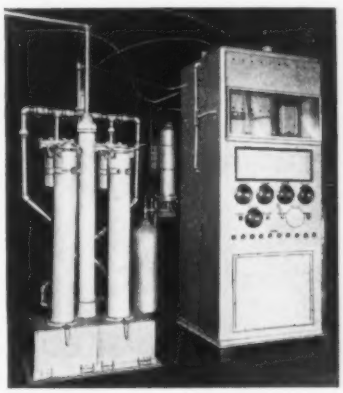
Photoelectric densitometer

Photoswitch, Inc., has just published a four-page booklet describing its new Photoswitch Densitometer, a photoelectric control for transparency measurements of liquids, gases, films, filters, plastics, etc. Copies may be obtained upon request.

Chlorine dioxide production

The Mathieson Alkali Works has developed an "at the point" process of producing chlorine dioxide, thereby permitting its use as manufactured. This effectively permits the use of the chemical without fear of deterioration.

The equipment consists of a two-tower generator and a cabinet. The chlorine dioxide is generated by feeding chlorine and air into the towers which are filled with flaked sodium chlorite.



Chlorine dioxide is two and one-half times as powerful as chlorine as a bleaching agent. Its uses are in treating public water supplies, checking blue mold in citrus fruits, and reducing spoilage in canned foods.

New Water Coolers

New water coolers, designed to eliminate warm-up and wet systems are being made by Drayer & Hanson.

The coolers are based on proven principles, but are new in design. Incoming warm water is confined, thus minimizing warm-up. The refrigerant cannot come in direct contact with the water, and vice-versa, so danger of wet systems is eliminated. This permits the use of simplified controls.

Dye for Plastics

The Krieger Color and Chemical Company announces a dye for Lucite, Plexiglas, Cellulose Acetate and Tenite, which they claim to be efficient and dependable. No expensive equipment is required.

When Lucite and Plexiglas were placed on the restricted list another dye was developed for Cellulose Acetate. It is used in the same way as the dye Lucidip, but requires less time.

Bims change golf location

The meeting, scheduled for July 25, at Siwanoy, has been called off. It will be held instead at the Winged Foot Golf Club, Mamaroneck, N. Y. The date remains the same.

New Consultants' directory

The Association of Consulting Chemists and Chemical Engineers has issued the eighth edition of its Classified Directory. The directory furnishes information on the scope and activities of the consultants in their various fields. It may be obtained without charge.

Post-war air cargo luncheon

The first National air cargo packaging luncheon will be held at the Hotel Pennsylvania, New York, N. Y., on Friday, June 23. It will be of interest to those who wish to explore the post-war possibilities of shipping by air.

Fifth War Loan Drive

As we go to press the Fifth War Loan Drive is under way. The goal set is the highest so far, amounting to $16,000,000,000. Of this amount, individuals are expected to purchase $6,000,000,000 in bonds. Let's all participate, and show our fighting men that we are doing our part.

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Trade Jottings for the Month

ORBIS PRODUCTS CORPORATION, 215 Pearl Street, New York, N. Y., anticipating a heavy post-war demand for its products, has purchased the entire chemical plant of the Catalin Corporation of America, located at Matawan, N. J. The plant comprises 7½ acres of land upon which are 18 buildings.

The Newark plant of Orbis Products Corporation will be retained.

MCKESSON & ROBBINS has announced a new retirement plan, whereby employees will be eligible for retirement allowances. To be acceptable, the employee must have had a minimum of 15 years' service at the age of 65. The number of years of creditable service are limited to 35, and the maximum annual retirement allowance is set at $15,000.

The company estimates that the annual contribution to the plan will be about $600,000, which will be reduced to about $400,000 when previous services have been liquidated.

KIMBLE GLASS COMPANY, Vineland, N. J., has received the Army-Navy "E" Award because it has been meeting the needs of the Army and Navy for hospital glassware, and for quantities of ampules, and other special containers and apparatus.

Col. Evan E. Kimble, founder of Kimble Glass Company, spoke in accepting the Award for the men and women of the company.

FRITZSCHE BROTHERS, INC., 76 Ninth Ave., New York, N. Y., has issued a new price list. This list is available to the trade for the writing.

GEORGE LUEDERS & CO., 427 Washington Street, New York City, has issued a new price list. Those interested may obtain a copy free of charge.

STERLING DRUG, INC., and subsidiary companies report a net income of $2,767,573 for the quarter ending March 31, 1944, after all charges, and after provision of $3,035,669 for estimated Federal and foreign income taxes. This is equal to $1.58 per share.

For the comparable quarter of 1943, net earnings were $2,405,098, or $1.37 per share, after all taxes of $3,601,277.

CHEMACO LTD. has moved its office and factory to new quarters at 4324 St. Lawrence Blvd., Montreal, Canada.

RICHARD HUDNUT has announced the appointment of W. A. Dunkley as representative in the Northern New England territory. He replaces Bill Benson, who is now with the armed forces.

New Revlon Showrooms

On June 1, Revlon opened its new showrooms at 745 Fifth Avenue, New York, N. Y. Showrooms and offices are the latest word in design and styling.

PLYMOUTH WAXES *for* CREAMS

This Spermaceti should not be confused with inferior hydrogenated sperm oils which are sometimes offered as Spermaceti. The Plymouth Brand is the finest which can be produced and is produced from Genuine Sperm Oil by the cold pressing method. It is a very white crystalline wax containing no free oil, has a very low Iodine number and is free of any offensive odors.

PLYMOUTH Ozokerites

We offer two grades. One is the highest quality obtainable, 76°-78° C. melting point and the other grade lower in price and of lower melting point 66°-68° C. Both are guaranteed 100% Pure Bleached Ozokerites.

PLYMOUTH Sun-bleached White Beeswax U. S. P.

This is guaranteed to be a 100% Pure Beeswax and sun-bleached. It is refined by the centrifugal method which removes all and every trace of foreign matter. We will gladly send samples.

PLYMOUTH White Cirine Wax

A special grade of White Ceresin Wax prepared for the cosmetic trade. Absolutely white and odorless. It has a melting point corresponding to that of Beeswax so that in using it in connection with Beeswax in cream any "lumpiness" is avoided. Its use will also produce a very glossy cream.

We offer all grades of the U. S. P. fully-refined Paraffin Waxes.

A COMPLETE LINE OF COSMETIC RAW MATERIALS

M. W. PARSONS

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AND ALL OTHER
ESSENTIAL OILS
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PERFUME BASES
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TERPENELESS and
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Master Blenders of distinctive and original perfume oils, flavor oils, and essences.

We also specialize in the duplication of any perfume or flavor.

Samples and prices gladly furnished on request.

Representatives in Philadelphia, Pa., and St. Louis, Mo.

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MORE AND LESS

Combining the best technical skill with the best ingredients money can buy is our way of showing appreciation of the confidence placed in us by many leading cosmetic houses.

We would do more if we could. Under no circumstances will we do less.

At this time we are privileged to serve the U. S. Armed Forces and Defense Plants with special preparations.

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Cosmetic Company

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Our Absorption Bases possess inherent emollient and absorption properties because of their high free Cholesterol content.

- Facilitate the penetration and absorption of incorporated therapeutic agents.
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- Absorb unusually large amounts of water.
- Form pure white water-in-oil emulsions, completely stable under widely varied conditions.
- Form elegant products of rich texture and consistency.

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AMERCHOL products are manufactured from specially processed Cholesterol and other sterols.

- Will not oxidize, nor turn rancid.
- Are unaffected by electrolytes.
- Retain their properties at extreme temperatures.
- Are for neutral, acid and alkaline creams, ointments and lotions.

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Incorporated

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Here and There Among Our Friends

▸ Dr. Joseph G. Davidson, who participated in the early work in synthetic organic chemistry which led to the foundation of Carbide & Carbon Chemicals Corp. and who has served in this company in technical and executive capacities since its formation has been elected president of this company and also president of Carbide & Carbon Chemicals Ltd. Both companies are subsidiaries of the Union Carbide & Carbon Corp., New York, N. Y., and both have enjoyed a phenomenal growth since their inception, built largely on the results of skilful research work. Both companies supply numerous raw materials used in the cosmetic, the flavor and allied industries. The new president holds degrees in chemistry from the University of Southern California and Columbia University.

Dr. J. G. Davidson

▸ Alfonso Cornejo, Mexico City, Mexico, who has been actively interested in the toiletries and allied industries for many years as a chemical engineer, has been visiting the trade in the metropolitan territory for the past month. He came to the United States primarily as a delegate from the University of Mexico and the National Board of Education of Mexico City to study chemical departments and teaching methods in physics and chemistry in American universities. He returned to Mexico June 15.

▸ Dr. Alexander Katz, president of Florasynth Laboratories, Inc., recently presided at a banquet in San Diego, Calif., where many friends of the company were gathered. Dr. Katz treated the gathering to interesting motion pictures of the New York plant, and to others showing the organization's work in Mexico, where they cure their own vanilla beans.

▸ Harry Martin has been appointed to the board of Tylon Products, Inc., makers of Tylon cold permanent waves and beauty salon aids.

He is the founder and president of Martin Laboratories, makers of Typ, a basic ingredient for cold permanent waving solutions.

▸ William L. Schultz, president of Shulton, Inc., has returned to his office in Rockefeller Center, New York, from Florida where he spent the winter at Palm Beach.

▸ James J. Glynn has been appointed sales manager of Pacific Coast operations of the Anchor-Hocking Glass Corp. including its subsidiary company of the Maywood Glass Co. and the closure division of the parent company. He has been connected with the company since 1931 and will make his headquarters in Los Angeles, Calif.

BRIDGEPORT...

For the past two years our facilities have been devoted almost exclusively to the production of war materials. We have been fortunate, in that we have been able to handle this work on the same equipment used for our regular peace time products, and, consequently, when material again becomes available for lipstick containers, vanity cases and other metal cosmetic items we will be prepared to start producing our regular line immediately. If you too are planning your post war program, we will be glad to assist you.

THE BRIDGEPORT METAL GOODS MFG. CO.

BRIDGEPORT *Established 1909* CONNECTICUT

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VANITY CASES • ROUGE CASES • PASTE ROUGE CONTAINERS • LIPSTICK HOLDERS (ALL TYPES) • POWDER BOX COVERS • EYEBROW PENCIL HOLDERS • BOTTLE CAPS • JAR CAPS • METAL NOVELTIES TO ORDER

NOTE OF SPRING — A VIOLET BASE

A NATURAL OIL PRODUCT

Violin

The Voice of Nature is akin
To the dulcet tones of VIOLIN

THE ARTIST & DREAMER merges his SOUL in his VIOLIN! With it he ranges from fiery Gypsy Rhapsodies to the subtle Humoresque and Ave Maria. His violin pulls our heart strings, lets loose our tears—brings forth our laughter and restores our years.

Where can one duplicate such a Master Instrument! It sobs, it murmurs. It also shrieks and screams with delirious laughter and exquisite joy. It runs—dances, setting our feet in motion, our bodies swaying.

JUST SO—VIOLIN! In the hands of the ARTISTIC Perfumer it produces fragrant Melodies and Harmonies, reaching new HORIZONS and FRESH FIELDS of distinctive Perfumes.

Those desiring original compositions should investigate VIOLIN.

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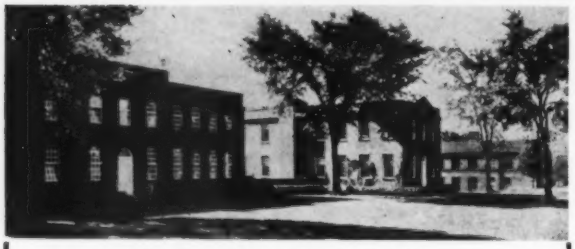

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An invaluable reference work, authoritative and comprehensive . . . on the present availability of materials, replacements . . . and 162 convenient sources of supply. All listings of products cross-indexed by number with manufacturers.

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AND ESSENTIAL OIL REVIEW
9 East 38th St., New York 16, N. Y.

▸ Percy C. Magnus, president of Magnus, Mabee & Reynard, Inc., New York, N. Y., who was drafted to be chairman of the New York Board of Trade for the duration has had another task delegated to him by virtue of his accomplishments in various civic and philanthropic enterprises over the last quarter century. He has been appointed general chairman of the Disabled American Veterans National Service Fund, the only Congressionally chartered organization consisting of disabled veterans and giving aid to our war disabled veterans exclusively. It was organized in 1920 and is national in scope with headquarters in Cincinnati, Ohio, and a national service bureau in Washington, D. C. Officers are maintained in nearly all of the 52 regional offices and hospital facilities of the Veterans' Administration as well as in Army and Navy demobilization centers. The organization has 40 state departments and 925 local chapters and its rapidly growing membership now numbers more than 50,000. Mr. Magnus is also a trustee and member of the executive committee of the East River Savings Bank, director and member of the executive committee of the New York Casualty Co. and the Underwriters Trust Co., director of the Downtown Hospital, New York City, and also of the Methodist Episcopal Hospital, Brooklyn, trustee and former treasurer of the Columbia College of Pharmacy, former chairman of the Drug and Chemical Section of the New York Board of Trade and former president of the Drug and Chemical Club. All told Mr. Magnus has served seven years as president and chairman of the New York Board of Trade.

P. C. Magnus

▸ Lieut. Col. Kenneth A. Fischer stationed at Quantico headquarters is the son of William F. Fischer, sales manager of Magnus, Mabee & Reynard, Inc., New York, N. Y. Col. Fischer is one of the youngest officers of that rank in the Marines.

▸ Dr. Edgar G. Thomssen has announced that on June 1 he completely severed all affiliation with The J. R. Watkins Co. of Winona, Minn. He had been chief chemist of this company since July, 1923. Dr. Thomssen will devote his time in the future to consulting work in the fields of soap, disinfectants, insecticides and allied industries in which he has had wide and long experience. He recently returned to his home in Winona after a Winter spent in Florida as chemical consultant with large farm interests in Manatee County. He has been inactive with the Watkins company since December 1, 1943. Dr. Thomssen, authority on soap, was at one time editor of the Soap Section of American Perfumer.

Dr. E. G. Thomssen

that creative touch
....LAST WORD IN "ON THE PACKAGE" PRINTING SENDS HELENA RUBINSTEIN'S "HEAVEN SENT" OUT INTO THE WORLD SELF-ASSURED AND LOVELY IN ITS PERFECTION.
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WE offer you our SPRAYING, ENAMELING and BAKING services. Also our ALCOHOL-PROOFING service for BOTTLES, JARS, etc. We also enamel such items as LIPSTICK CONTAINERS and all other types of CONTAINERS. No order too large. Our representative will be pleased to call and discuss your problems.

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EVENTUALLY—For better creams, with economy

B-W Lanolin the superior quality puts into your cream that which gives the skin that smooth soft velvety feeling.

B-W Lanolin will never cause your cream to darken, is best by test and contains over 15% free and combined Cholesterol.

No other base used in your cream, equals the merits of B-W Lanolin.

B-W HYDROPHIL (Absorption Base) Made in U.S.A.

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LINDEN, N. J.

America's Original Lanolin Producer
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A duplication which accurately captures the full Rose character. Same strength as the NATURAL OTTO ROSE at one-sixteenth the price. Give it the same tests as the NATURAL OTTO ROSE and compare.

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Almond Bit, per lb.	3.50@	4.00
S. P. A.	4.75@	5.10
Sweet True	1.55@	1.75
Apricot Kernel	.56	Nom'l
Amber, rectified	2.25	Nom'l
Angelica Root	125.00@	150.00
Anise, U. S. P.	3.85	Nom'l
Imitation	1.75@	2.10
Aspic (spike) Span.	3.75@	4.00
Avocado	.90@	.95
Bay	1.45@	1.70
Bergamot	25.00	Nom'l
Brazilian	10.00@	10.25
Artificial	4.00@	9.25
Birch, sweet	3.35@	5.25
Birchtar, crude	2.25	Nom'l
Birchtar, rectified	4.25	Nom'l
Bois de Rose	5.00@	5.25
Cade, N. S. P.	1.10@	1.35
Cajeput	2.25@	3.00
Calamus	22.50@	35.00
Camphor, "white," dom.	.35@	.45
Cananga, native	10.75@	12.50
Rectified	15.00@	19.00
Caraway	17.50	Nom'l
Cardamon	28.00@	32.00
Cassia, rectified, U. S. P.	12.00	Nom'l
Imitation	3.75@	
Cedar leaf	1.35@	1.60
U. S. P.	2.65@	3.34
Cedar wood	.85@	.95
Celery	24.00@	26.00
Chamomile	150.00	Nom'l
Cinnamon	15.00@	32.00
Citronella, Ceylon	1.05@	1.25
Java	3.25	Nom'l
Cloves, Zanzibar	1.50@	1.75
Copaiba	.85	Nom'l
Coriander	30.00@	32.00
Imitation	12.00@	14.00
Croton	3.75@	4.00
Cubebs	5.25	Nom'l
Cumin	8.25@	10.00
Dillseed	7.50	Nom'l
Erigeron	2.15@	2.50
Eucalyptus	1.55	Nom'l
Fennel, Sweet	4.00	Nom'l
Geranium, Rose, Algerian	13.00@	15.00
Bourbon	15.25@	16.75
Turkish	5.25@	6.00
Ginger	21.00@	22.00
Guaiac (Wood)	4.50@	6.10
Hemlock	1.50	Nom'l
Substitute	.55@	.60
Juniper Berries	15.00	Nom'l
Juniper Wood, imitation	.75@	.80
Laurel	5.00	Nom'l
Lavandin	8.25	Nom'l
Lavender, French	10.00@	12.00
Lemon, Calif.	3.25	Nom'l
Lemongrass	1.65@	1.80
Limes, distilled	7.00@	7.75
Expressed	11.00@	11.75
Linaloe	3.65@	4.00
Lovage	95.00	Nom'l
Marjoram	7.25@	7.50
Neroli, Bigarde P.	300.00@	375.00
Petale, extra	275.00@	340.00
Olibanum	5.00@	5.75
Opopanax	25.00@	38.00
Orange, bitter	4.00@	4.50
Brazilian	1.35@	1.50
Calif., exp.	1.50@	
Orris Root, abs. (oz.)	135.00@	
Artificial	36.00@	40.00
Pennyroyal, Amer.	3.25@	4.10
European	3.15@	4.10
Peppermint, natural	7.50@	
Redistilled	8.05@	
Petitgrain	1.70@	2.00
Pimento	5.25@	8.00
Pinus Sylvestris	4.25@	5.00
Pumillonis	4.25	Nom'l
Rose, Bulgaria (oz.)	25.00@	32.00
Synthetic, lb.	45.00@	55.00
Rosemary, Spanish	2.00@	2.10
Sage	6.25@	7.50
Sage, Clary	30.00@	35.00
Sandalwood, East India	6.75	Nom'l
Sassafras, natural	2.10@	2.35
Artificial	1.50@	1.80
Snake root	10.00@	12.75
Spearmint	4.00	Nom'l
Thyme, red	2.60@	3.25
White	3.25@	5.00
Valerian	40.00	Nom'l
Vetivert, Java	45.00	Nom'l

(Continued on page 89)

René Forster Company

Fine Aromatic Chemicals

Essential Oils Specialties

404 Fourth Ave. New York 16, N.Y.

Murray Hill 5-0250

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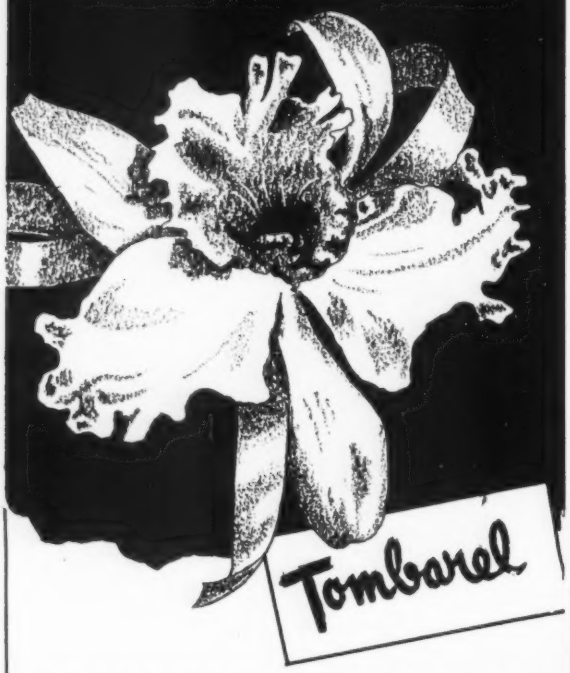

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• Our long and close association with the well known House of Tombarel Freres, of Grasse . . . together with our experience and complete facilities . . . are assurance that here you may expect to find something different and original.

• Call upon us freely for help with your perfume problems.

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Many years ago we first offered fine paper boxes to cosmetic manufacturers. It is significant that since then most of the concerns with whom we began business still call upon us to meet their needs.

•

Despite the shortage of raw materials it is our pledge never to depart from the high standard of quality that has always been identified with KARL VOSS paper boxes.

•

There is no finer cosmetic container than a KARL VOSS box.

•

KARL VOSS CORPORATION
DIVISION OF SHOUP-OWENS INC.
HOBOKEN NEW JERSEY

(Continued from page 87)

Wintergreen	5.25@	8.50
Wormseed	5.25	Nom'l
Ylang Ylang, Manila	38.00	Nom'l
Bourbon type	18.00@	20.00

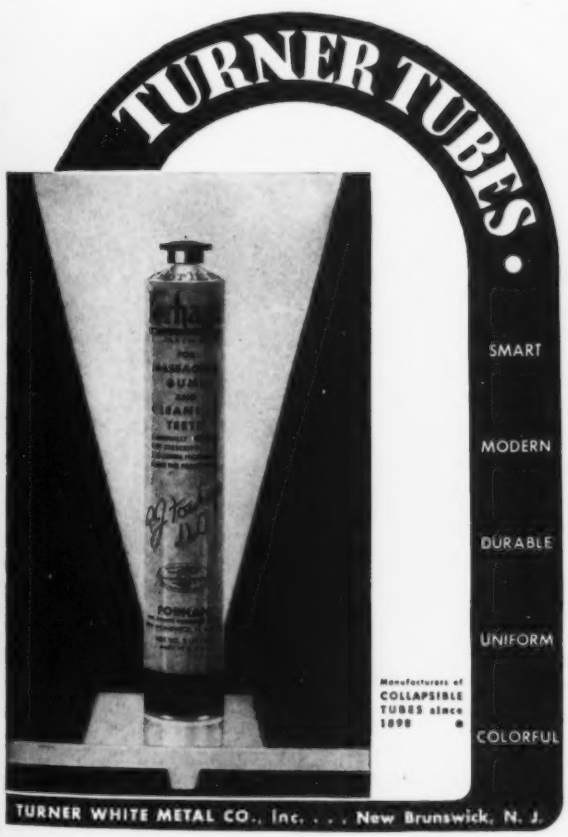
TERPENELESS OILS

Bay	2.75@	3.00
Bergamot	49.00	Nom'l
Grapefruit	65.00@	
Lavender	28.00	Nom'l
Lemon	40.00@	55.00
Lime, ex.	80.00@	100.00
Distilled	60.00@	67.00
Orange sweet	57.00@	100.00
Peppermint	13.00@	13.25
Petitgrain	3.75@	4.00
Spearmint	5.00@	6.00

DERIVATIVES AND CHEMICALS

Acetaldehyde 50%	1.90@	2.75
Acetophenone	1.60@	1.75
Alcohol C 8	7.50	Nom'l
C 9	14.00	Nom'l
C 10	7.75@	12.00
C 11	11.50	Nom'l
C 12	7.20@	8.50
Aldehyde C 8	22.50@	28.00
C 9	32.00	Nom'l
C 10	22.00@	29.00
C 11	22.00	Nom'l
C 12	25.00@	30.00
C 14 (so called)	9.25@	9.75
C 16 (so called)	7.65@	8.25
Amyl Acetate	.50@	.75
Amyl Butyrate	.90@	1.10
Amyl Cinnamate	4.50@	5.80
Amyl Cinnamate Aldehyde	2.75@	5.00
Amyl Formate	1.00@	1.75
Amyl Phenyl Acetate	3.75@	4.00
Amyl Salicylate	.85@	1.00
Amyl Valerate	2.00@	2.75
Anethol	2.75@	2.85
Anisic Aldehyde	3.15@	4.00
Benzophenone	1.15@	1.30
Benzyl Acetate	.65@	1.00
Benzyl Alcohol	1.25@	2.00
Benzyl Benzoate	1.10	Nom'l
Benzyl Butyrate	2.25@	3.00
Benzyl Cinnamate	5.15	Nom'l
Benzyl Formate	2.50@	3.00
Benzyl-Iso-eugenol	10.25	Nom'l
Benzylidenacetone	2.25@	3.40
Borneol	1.80	Nom'l
Bornyl Acetate	2.00	Nom'l
Bromstyrol	5.00	Nom'l
Butyl Acetate	.11@	14½
Cinnamic Acid	3.75@	4.50
Cinnamic Alcohol	3.75@	4.00
Cinnamic Aldehyde	1.75	Nom'l
Cinnamyl Acetate	10.40@	12.00
Cinnamyl Butyrate	12.00@	14.00
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	3.85@	4.25
Citronellol	6.50@	7.00
Citronellyl Acetate	8.60@	9.20
Coumarin	3.00@	3.50
Cuminic Aldehyde	8.00@	11.25
Diethylphthalate	.24	Nom'l
Dimethyl Anthranilate	4.55@	5.0
Ethyl Acetate	.25	Nom'l
Ethyl Anthranilate	5.75@	7.50
Ethyl Benzoate	.90@	1.15
Ethyl Butyrate	.75@	.90
Ethyl Cinnamate	3.25@	3.75
Ethyl Formate	.60@	1.00
Ethyl Propionate	.80	Nom'l
Ethyl Salicylate	.90@	1.00
Ethyl Vanillin	5.25@	6.00
Eucalyptol	2.75	Nom'l
Eugenol	2.90@	3.25
Geraniol, dom.	3.50@	4.75
Geranyl Acetate	4.00	Nom'l
Geranyl Butyrate	8.20@	8.50
Geranyl Formate	9.25@	10.00
Heliotropin, dom.	6.00	Nom'l
Hydrotopic Aldehyde	15.00@	18.00
Hydroxycitronellal	7.75@	10.00
Indol, C. P.	23.00@	26.50
Iso-borneol	1.00@	1.10
Iso-butyl Acetate	1.25@	2.00
Iso-butyl Benzoate	1.50@	2.60
Iso-butyl Salicylate	2.70@	3.00
Iso-eugenol	4.00@	4.85
Iso-safrol	3.00	Nom'l
Linalool	7.50@	8.00
Linalyl Acetate 90%	7.00@	8.75
Linalyl Anthranilate	15.00@	
Linalyl Benzoate	10.50@	
Linalyl Formate	9.00@	12.00
Menthol, Brazilian	16.50@	
Methyl Acetophenone	1.80	Nom'l
Methyl Anthranilate	2.75@	3.00
Methyl Benzoate	.70@	1.10
Methyl Cellulose, f.o.b. shipping point	.60	Nom'l
Methyl Cinnamate	2.25@	3.50
Methyl Eugenol	3.50@	6.75
Methyl Heptenone	3.25	Nom'l
Methyl Heptine Carbonate	40.00@	60.00
Methyl Iso-eugenol	5.85@	10.00
Methyl Octine Carbonate	24.00@	30.00
Methyl Paracresol	2.50	Nom'l
Methyl Phenylacetate	3.75@	4.00
Methyl Salicylate	.35@	.38
Musk Ambrette	9.50	Nom'l
Ketone	4.50@	9.70
Xylene	1.65@	2.50
Neroline (ethyl ether)	2.00@	3.15
Paracresol Acetate	2.50@	3.00
Paracresol Methyl Ether	2.60	Nom'l
Paracresol Phenyl-acetate	6.50@	8.50
Phenylacetaldehyde 50%	3.00@	3.35
100%	4.50@	5.00
Phenylacetic Acid	3.00@	3.75

(Continued on page 91)



Lanone

LOOKS — BEHAVES — FEELS

Like Lanolin

BUT

HAS GREATER EMULSIFYING PROPERTIES

PRACTICALLY ODORLESS

Lanone is being successfully used in lipstick, shaving creams, hand creams, emollient creams and other cosmetics.

Write for Literature and Samples
Price 35¢ lb. in drums
quantity price lower

CONTINENTAL
CHEMICAL COMPANY
2640 Harding Ave., Detroit 14, Mich.

Natural and Aromatic
Raw Materials
Essential Oils
for

Perfumery •

Cosmetics •

Soap •

LAUTIER
FILS
INCORPORATED
154-158 West 18th Street
New York, N. Y.
Grasse · Paris · London · Beyrouth
Manufacturers of Quality Raw Materials
For Perfumery For Over 100 Years

Imitation Oils

OIL OF ORRIS (Liquid)

OIL OF CITRONELLA

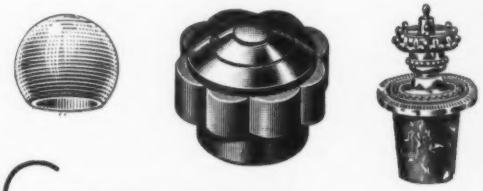
HYDROXYCITRONELLAL

SEELEY & CO.
INCORPORATED
136 Liberty St. • New York City

Founded 1854
FEZANDIE & SPERRLE, Inc.
205 Fulton Street, New York City
HIGHEST STANDARD
Colors and Dyes for Cosmetics, such as

LIPSTICKS	PERFUMES
ROUGES	LOTIONS
FACE POWDERS	SHAMPOOS
MASCARA	CREAMS
SOAPS	Etc.

•
Your inquiries are invited



CONSOLIDATED
Established 1858 FRUIT JAR CO.
NEW BRUNSWICK, NEW JERSEY
SHEET METAL GOODS : CORK TOPS : SPRINKLER TOPS : DOSE CAPS

(Continued from page 89)

Phenylethyl Acetate	2.50@	4.10
Phenylethyl Alcohol	2.50@	3.00
Phenylethyl Anthranilate	16.00@	
Phenylethyl Butyrate	3.75@	4.25
Phenylethyl Propionate	3.50@	4.75
Phenyl Formate	12.50@	18.00
Phenyl Valerianate	16.00@	17.50
Phenylpropyl Acetate	8.00@	10.00
Santalyl Acetate	20.00@	22.50
Scatol, C. P. (oz.)	5.35@	6.00
Styrolyl Acetate	2.50@	3.00
Styrolyl Alcohol	9.25@	12.00
Vanillin (clove oil)	2.60	Nom'l
(guaiacol)	2.35	Nom'l
Lignin	2.35	Nom'l
Vetivert Acetate	25.00	Nom'l
Violet Ketone Alpha	18.00	Nom'l
Beta	15.00	Nom'l
Methyl	6.50	Nom'l
Yara Yara (methyl ester)	2.00@	3.10

BEANS

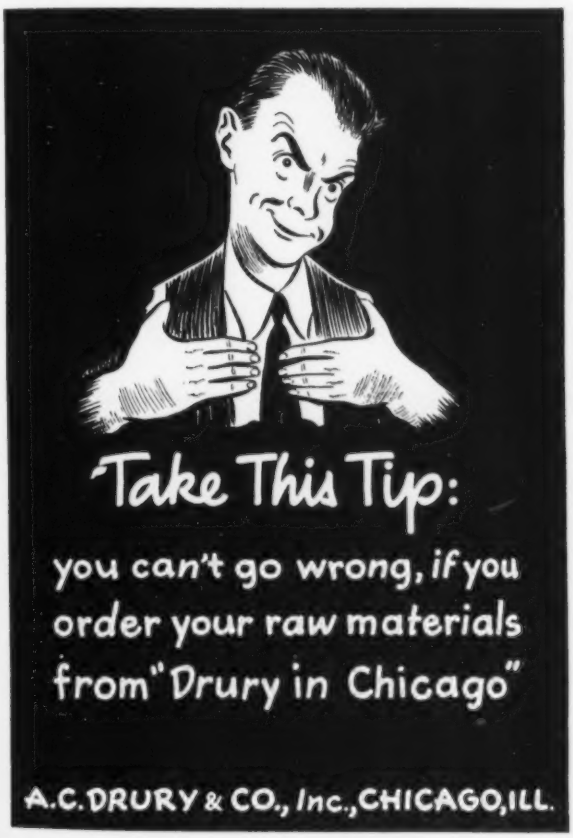
Tanka Beans, Surinam	.70@	.95
Angostura	2.40@	2.75
Vanilla Beans		
Mexican, whole	9.00@	10.00
Mexican, cut	7.75@	8.25
Bourbon	9.50@	10.50
Tahiti	3.75@	4.00

SUNDRIES AND DRUGS

Acetone	.8½@	.09
Almond meal	.25@	35
Ambergris, ounce	13.50@	18.50
Balsam, Copaiba	.60@	.75
Peru	1.05@	1.20
Beeswax, bleached, pure		
U. S. P.	.57	Nom'l
Yellow, refined	.52½	Nom'l
Bismuth, sub-nitrate	1.20@	1.22
Borax, crystals, carlot ton	55.50@	58.00
Boric Acid, U. S. P., cwt.	6.95@	7.55
Calamine	.18@	.20
Calcium, phosphate	.08@	.08¾
Phosphate, tri-basic	.09@	.10
Camphor, domestic	.69@	.84
Castoreum	13.00@	17.00
Cetyl Alcohol	1.75	Nom'l
Pure	2.25	Nom'l
Chalk, precip.	.03½@	.06½
Cherry Laurel Water, jug, gal.	3.60@	4.00
Citric Acid	.21	Nom'l
Civet, ounce	22.00@	28.00
Clay, colloidal	.07@	.15
Cocoa Butter, lump	.25½@	.27
Cyclohexanol (Hexalin)	.30@	.50
Fuller's Earth, ton	15.00@	33.00
Glycerin, C. P., drums	.18¼@	.18¾
Gum Arabic, white	.42@	.45
Amber	.13@	.14
Powdered, U.S.P.	.19@	.21
Gum Benzoin, Siam	5.00	Nom'l
Sumatra	1.35@	1.40
Gum Galbanum	1.80@	2.00
Gum Myrrh	.50@	.55
Henna, pwd.	.30@	.35
Kaolin	.05@	.07
Labdanum	3.25@	5.00
Lanolin, hydrous	.35@	.36
Anhydrous	.36@	.37
Magnesium, carbonate	.09@	.10¾
Stearate	.24@	.27
Musk, ounce	50.00	Nom'l
Olibanum, tears	.18@	.35
Siftings	.11½@	.13
Orange Flower Water, gal.	1.75@	2.25
Orris Root, African, pwd.	1.10@	1.15
Paraffin	.06¼@	.09
Peroxide	1.10@	1.75
Petrolatum, white	.06¼	.08½
Quince Seed	1.75@	2.00
Rice Starch	.10	Nom'l
Rose Leaves, red	3.50@	4.00
Rose Water, gal.	6.50@	8.00
Rosin, M. per cwt.	6.17@	
Salicylic Acid	.35@	.40
Saponin	2.00@	2.50
Silicate, 40°, drums, works, 100 pounds	.80@	1.20
Soap, neutral, white	.20@	.25
Sodium Carb. 58% light, 100 pounds	1.35@	2.35
Hydroxide, 76% solid, 100 pounds	2.60@	3.75
Spermaceti	.26@	.27
Stearate Zinc	.30@	.31
Styrax	1.40@	1.60
Tartaric Acid	.64	Nom'l
Tragacanth, No. 1	4.50@	4.85
Triethanolamine	.34½	Nom'l
Violet Flowers	1.75@	2.00
Zinc Oxide, U. S. P. bbls.	.10½	.10¾

OILS AND FATS

Castor No. 1, tanks	.13@	
Cocoanut, Manila Grade, c.i.f., tanks	.0835@	
Corn, crude, Midwest, mill, tanks	.12¾@	
Corn Oil, distilled, drums	.16¼@	.16½
Cotton, crude, Southeast, tanks	.12¾@	
Grease, white	.08⅞@	
Lard	.1380@	
Lard Oil, common, No. 1 bbls.	.14@	
Palm, Niger, drums	.0865	
Peanut, blchd., tanks	.15@	
Red Oil, distilled, tanks	.12½@	
Stearic Acid Triple Pressed	.18⅝@	.19⅝
Double Pressed	.15⅞@	.16⅞
Tallow, acidless, barrels	.14¼@	
Tallow, N. Y. C., extra	.08⅝@	
Whale oil, refined	.1232	Nom'l



Paper Boxes for the Cosmetic and allied trades . . . .

Present conditions preclude us from accepting any orders at the present time for immediate delivery.

Eugene K. Plumly Co.

Federal and Juniper Streets
Philadelphia 47, Pa.

CODAN
REG. TRADE MARK

Raw Materials
Aromatic Chemicals
Essential Oils
Imports

for

Perfumery · Soap · Food · Flavors

Gerard J. Danco
INCORPORATED
333 SIXTH AVENUE, NEW YORK, N. Y.
Cable Address: CODAN, New York

Made from the world's finest crude beeswax.

Chemically tested for quality and purity.

Bleached by sun and air—nature's own method.

BEEHIVE BRAND
Beeswax

And because of its superior quality you can use less and still get a finer finished product! Guaranteed pure...guaranteed always the same.

Will & Baumer Candle Co., Inc.
Established 1855
SYRACUSE, NEW YORK

Spermaceti · Ceresine · Yellow Beeswax
Composition Waxes · Red Oil · Hydrotear
Stearic Acid

FOR EFFECTIVE PRESERVATION OF COSMETICS USE

CHEMOSOL

IN AQUEOUS SOLUTIONS AND SUSPENSIONS OF GUMS · COLORS · GELATIN · GLYCERIN · INORGANIC SALTS

CHEMOGIN

FOR PRODUCTS CONTAINING ALCOHOLS · OILS · FATS · WAXES · LANOLIN

CHEMOSOL AND CHEMOGIN ARE SOLUBLE · ODORLESS · TASTELESS · NON-IRRITATING · NON-TOXIC— USED IN SMALL PERCENTAGES TO EFFECTIVELY PRESERVE: WAVESET SOLUTIONS AND POWDERS · HAND LOTIONS · CAMOUFLAGE AND SUNBURN CREAMS · EMULSIONS DESCRIPTIVE LEAFLETS AND SAMPLE ON REQUEST.

CHEMO PURO MFG CORP
48th Ave. & 5th St., Long Island City 1, N. Y.

EXCLUSIVE
PRIVATE BRAND
COSMETICS

COSMIA

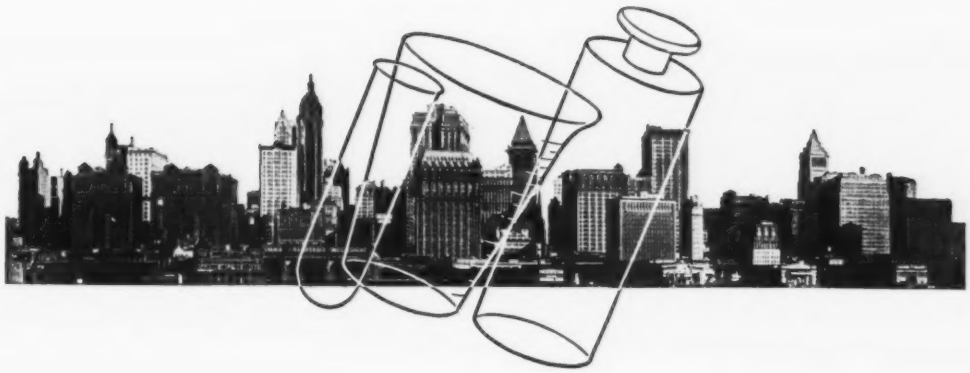
COSMIA LABORATORIES
95 MADISON AVE. NEW YORK 16, N. Y.

A NEW
WHITE SACHET FILLER

Made in fine ground wood powder—NEUTRAL COLOR.
Also fine ground aromatic red cedar powder.
Highly absorbent, retains scent.
Above grades are now being used in the cosmetic industry.
Always uniform—prompt shipment—no priorities needed.
Sawdust for other purposes—special fine and coarse grades.

Ask for samples

NATIONAL SAWDUST CO. INC.
76 North 6th Street **Brooklyn 11, N. Y.**



Essential Oil Market Uncertain

THERE are so many factors that enter into the wholesale market for essential oils, aromatic chemicals and closely related materials, that the immediate outlook is regarded as more uncertain than at any time since the beginning of the war.

In some instances the labor shortage has become a major problem, while in other directions containers are threatening to offer greater difficulties, and in many cases there remains an acute shortage of the raw materials themselves.

News of an increase in the sugar quota to confectioners and certain other consumers of flavors tended to create a slightly better feeling in some directions with regard to future buying, but unfortunately the consumption of essential oils and other closely related articles will continue to be restricted by the minimum quotas of the various component parts which go to make up a manufactured product. In other words, while a manufacturer may find it easier to obtain sugar, there still remains the problem of an ample supply of gelatin, citric acid, or alcohol.

Orange oil displays increasing signs of strengthening as the result of the extremely tight position in lemon and a shortage of certain other flavors. Toward the close of last month there were reports of an arrival of Sicilian lemon oil. Direct negotiations with the Sicilians cannot be made with respect to future shipments but it is understood that progress has actually been made toward importations from that area.

A great deal regarding future shipments will depend upon developments in the war, and in view of the swift moving events abroad, it seems virtually impossible to make predictions with any degree of accuracy.

While Russian oils, particularly lavender and geranium, have been receiving some publicity here of late with possible hints that fairly substantial quantities may be available for import during the post-war period, it is extremely interesting to learn that there was a very substantial inquiry for a long list of oils to be exported from the United States to Russia. As far as can be learned very little export business actually developed because of unusual circumstances prevailing in this market. Generally, trade in aromatic chemicals was restricted with manufacturers being confronted with a serious labor problem. Following a rather sharp advance in quotations, virtually all offers of heliotropine were withdrawn from the market. Artificial musks are in an exceptionally firm position. Producers indicated that the supply situation was rather tight and stocks in the hands of resellers have dropped considerably. Numerous instances arose where such sellers reported that they were unable to name quotations due to the absence of available supplies.

PEPPERMINT OIL

Although trade in mint oils is rather quiet, the attention of both buyers and sellers is rapidly being turned to coming crops. Most of the Indiana peppermint acreage has been planted, and an increase in the planted acreage is expected to offset the reduction in onion acreage. While it is understood small lots of peppermint oil were reaching this market from the country, the oil was found to be deficient in solubility with consequent higher losses when redistilled.

The action of the various gums proved rather uninteresting throughout the period under review although continued shortages of benzoin and myrrh had far-reaching effects upon the manufacture of certain articles. Day-to-day fluctuations in arabic were confined within narrow limits. Occasional export inquiries were reported but few developed into actual sales. Domestic demand was restricted to small lots.

VANILLA BEAN SHIPMENT

A steamer scheduled to have sailed from a South African port with a cargo of about 100 tons of vanilla beans grown in Madagascar actually left that port in the final week of May but with a different cargo carrying a high priority. It is understood, however, through the cooperation of various government agencies here the beans are scheduled to be shipped on the next available steamer leaving for the United States. Because of the unexpected delay in the shipment of Bourbon beans buyers here have been showing considerable interest in the Mexican varieties. Virtually all of the last crop of cut beans has been sold. The activity was accompanied by rising prices in Mexico. In view of the higher costs, it is quite likely local houses will be holding for better spot prices at a future time.

YOU CAN'T AFFORD TO SHADOWBOX WITH THE PAPER-BOX PROBLEM!

NO, SIR. Or with any other angle of the paper conservation problem. Our boys need every bit of paper and paper board the Army can get to ship their precious invasion supplies in. And it's up to you and every other manufacturer to cut and cut and cut again on the use of paper and paper board.

For every time a convoy sets sail—that's so much more paper and paper board in action. And the supply, as you know, is diminishing.

So your job is to figure every known way, yes, and a few unknown ways, to USE LESS PAPER AND PAPER BOARD.

Don't worry about the public, your public, squawking about your cutting down. The big all-out national drive right now is selling the public on the necessity for paper conservation. They'll be with you.

The green light is yours. Step on it.

If your company and your community have not already started paper Conservation Committees, why not get them started now yourself?

USE LESS PAPER BECAUSE

Paper vests have proved excellent for aviators and ground crews as cold protection.

Paper is used for disposable gun covers and ordnance wraps to protect such equipment while making invasion landings.

The Army supplies helmets of laminated fiber for non-combat duty in the tropics.

Many essential airplane parts are fabricated of plastic with a paper base.

Army trucks require 20 pounds of paper for safe delivery.

It takes 25 tons of blueprint paper to make a battleship.

USE LESS PAPER THESE WAYS

Review all printed forms periodically for essentiality; consolidation; elimination of waste space; standardization of sizes, weights, color, grade; elimination of color where possible.

Eliminate carton insert and/or directions when possible and substitute information on label.

Overhanging, extended or padded carton tops should be eliminated unless they can be justified in a critical paper shortage.

Use and re-use carbon paper consistently.

Consider the possibility of reducing the length and increasing the diameter of tubular products as a means of conserving folding and set-up boxes.

Let's All Use Less Paper

This advertisement prepared under the auspices of the War Advertising Council in co-operation with the Office of War Information and the War Production Board.

Space for this advertisement contributed by THE AMERICAN PERFUMER and ESSENTIAL OIL REVIEW

Obituary

Burrows Morey

Burrows Morey, former superintendent of the soap products department of the Larkin Company, died suddenly May 14, in Monterey, Mexico, while enroute from Buffalo to his home in Mexico City.

He was 62 years old and had been associated with the Larkin Company for 25 years. Two years ago he went to Washington to accept a position with the Federal Economics Administration, and last year was assigned to Mexico City.

James Edwin Ganong

James Edwin Ganong, 78, first president of Lever Brothers, Limited, Toronto, soap manufacturers, died Saturday, May 6.

Born in Boston, he was a graduate of the University of New Brunswick. In 1912 he formed Canadian Soaps, Ltd., which was amalgamated with Lever Brothers in 1914, at which time he was appointed president. He resigned this office in 1926.

He retired several years ago because of ill health. He was a member of the National, York, Ontario, Granite, Lambton and Toronto Golf Clubs.

Frank R. Huisking

Word has been received of the death of Lieutenant Frank R. Huisking, who was a pilot in the U. S. Air Force. He was the son of Charles L. Huisking, and his father is the head of a number of firms in the drug industry.

Lt. Huisking was born in Brooklyn, on September 19, 1916, and on his graduation from Notre Dame in 1937 he joined Conti Products Corporation. At the time of his enlistment in 1942 he was secretary of that company.

Protective creams featured at Safety Congress

The fifteenth Ohio Safety Congress, at Columbus, Ohio, showed the importance which is attached to protective creams by having the various creams displayed by their manufacturers. Eleven manufacturers showed their latest products in this field. At least part of this interest is because of the large proportion of female employees in plants.

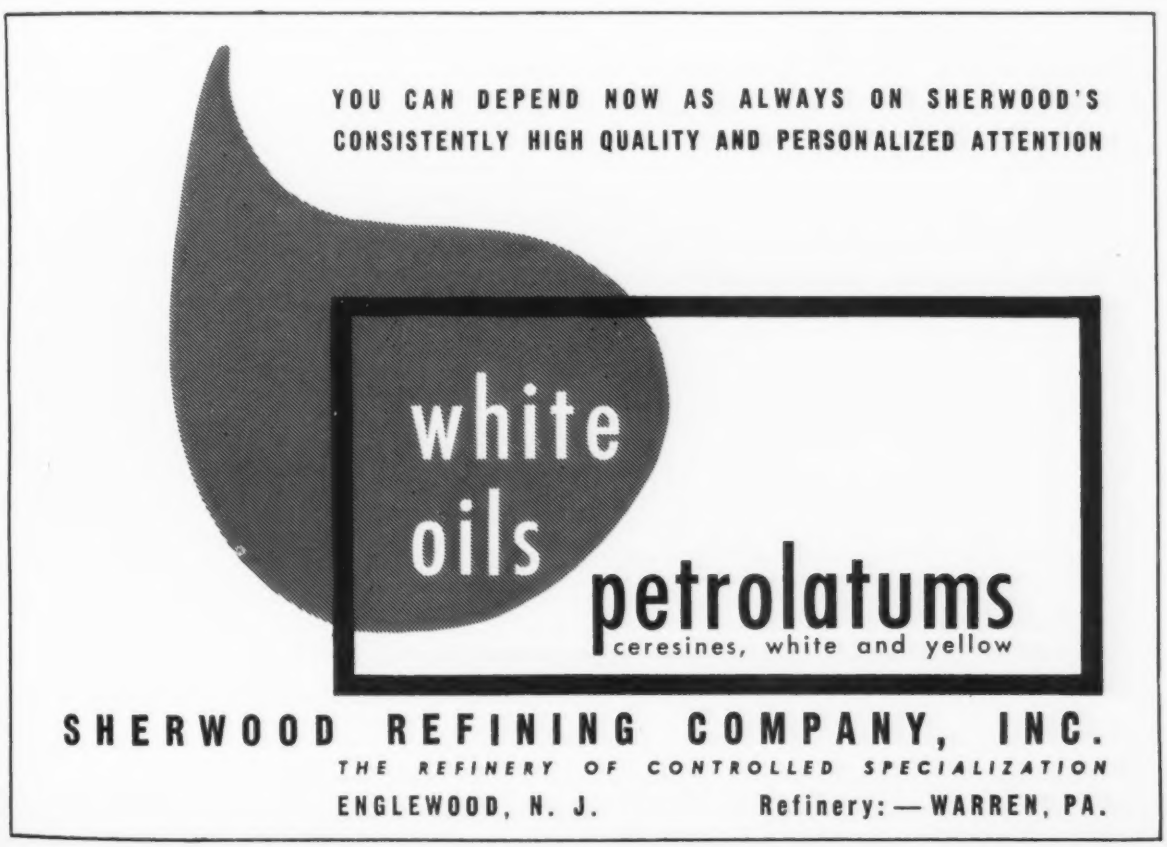
W.P.B.'s decision overridden to erect new alcohol plant

Donald M. Nelson has overridden the W.P.B.'s former ruling to announce that an alcohol plant has been approved for the Willamette Valley Wood Chemical Company, to be erected near Eugene, Oregon. The plant, for which $2,247,000 has been authorized, will produce industrial alcohol by hydrolysis of wood waste.

The plant will probably not be in operation before the spring of 1945. Its capacity will be around 4,100,000 gallons per year.

Leg make-up manufacturers show caution

The boom in leg makeup seems to have quieted down as manufacturers approach the summer season without having made plans for the extensive merchandising effort shown last year.



PROFESSIONAL SERVICE

CHARLES S. GLICKMAN
and Associates
CONSULTING CHEMISTS
Industrial Protective Creams . . . Synthetic Waxes and Esters . . . Raw Material Substitutes
39 West 38th St., N. Y. C., Wis. 7-8671

GEORGE W. PEGG Ph. C.
Consultant
Cosmetics—Drugs—Industrial Alcohol—Flavoring Extracts
Labeling—Advertising—Formulas
152 W. 42nd St., N. Y. 18, N. Y. Tel.: Wisconsin 7-3066
Washington address: 2121 Virginia Ave. N.W.,
Washington 7, D.C., c/o Dr. George W. Hoover

FIFTH AVENUE PROTECTIVE ASS'N
220 Fifth Avenue, New York City
38 Years of RESULT PRODUCING Service Proves Our Worth
The "TRADES" Recognized CREDIT and COLLECTION AGENCY.

CLASSIFIED ADVERTISEMENTS

The rates for advertisements in this section are as follows: Business Opportunities, $1.00 per line per insertion. Situations Wanted and Help Wanted, 50c per line per insertion. Please send check with copy. Address all communications to THE AMERICAN PERFUMER, 9 East 38th St., New York.

BUSINESS OPPORTUNITY

WANTED: 2—Dry Powder Mixers; 2—Pony Mixers; 2—Tablet Machines; 1—Filter; 3—Kettles; 2—Filling Machines. No dealers. Write Box 2353, The American Perfumer and Essential Oil Review.

BUSINESS OPPORTUNITY

Lines Wanted

West African Distributor serving the cosmetics, soaps, perfumes and flavors trade in West Africa is prepared to negotiate for Co-operative Export Selling Agency. Can handle twelve assorted manufactures. Remuneration by salary and bonus. Address your correspondence to Olayimika Fasanya, 14, Artesian Road, Bayswater, London, W.2.

NAILING MACHINE WANTED: We want used Morgan or Doig wood box Nailing Machines at once. State make, size, best cash price. Chas. N. Braun Machinery Co., Fort Wayne, Indiana.

A NEW PERFUME!

Will negotiate, outright, or on royalty basis, a Truly New Perfume Creation. New in its odor character proper and formulation as well as in its timely "romantic" appeal and name. Write Box 2484, The American Perfumer and Essential Oil Review.

EXPERIENCED COSMETICS-MANUFACTURING MAN DESIRES TO TAKE OVER A PLANT OR MANUFACTURING OPERATION. Write Box 2480, The American Perfumer and Essential Oil Review.

WANTED to contact manufacturers or jobbers of high class perfume bottles, foreign or domestic, all sizes and shapes. Prefer ground stoppered bottles in 1 to 8 oz. sizes. Write Box 2485, The American Perfumer and Essential Oil Review.

SITUATION WANTED

CHEMICAL ENGINEER: Eight years' experience in cosmetic plant management. Work included production and operation, packaging and bottling, maintenance, purchasing and inventory control. Seeking similar position where this background can be used to maximum mutual benefit. Draft deferred. Write Box 2466, The American Perfumer and Essential Oil Review.

CHEMIST—Experienced in development first class perfume formulas. Familiar with production procedures. Interesting proposition to offer if located near New York. Will not interfere with present occupation. Excellent opportunity. Give details of experience, age, education. Write Box 2483, The American Perfumer and Essential Oil Review.

AVAILABLE for Position: master perfumer with 30 years' experience in the creation and matching of fine perfumes and compounds from basic raw materials; designing packages, bottles and labels; merchandising and advertising. Thoroughly experienced in all phases of manufacture of perfumes and toiletries. Write Box 2470, The American Perfumer and Essential Oil Review.

BUY WITH CONFIDENCE – GET WITHOUT DELAY

2—Day Auger type Powder Fillers.
1—Pneumatic Scale 6 head, automatic Capper, m.d.
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WAR BONDS

NEWS and EVENTS

Standard set for zinc oxide

The scientific advisory committee of the Toilet Goods Association has set us standards for the purchase of zinc oxide regarding color, odor, identity, particle size, density, loss on ignition, carbonates, alkalis, arsenic and lead. The Board of Standards suggests that all members use the standards as minimum specifications.

Fortune Magazine writes on essential oils

Under the heading "Toward a Better-Smelling World," Fortune Magazine reports some post-war opportunities for the essential oil and aromatic chemical industry, in its June issue.

Sterling Drug, Inc., acquires Frederick Stearns & Co.

A deal has been consummated under the terms of which Sterling will pay 67,595 shares of its stock, on the basis of one share of Sterling for two of Stearns common. The latter stock has a par value of $5.00, and 135,190 shares are outstanding.

On June 30, Sterling will take over the assets, business and good will of Stearns, and immediately thereafter the latter company will be liquidated.

No change in management or personnel is contemplated.

Van Dyk & Company appoints western office manager

George F. Sherrill is now in charge of the western office, at 1282 Sunset Boulevard, Los Angeles, of Van Dyk & Company, Inc., of Belleville, New Jersey, manufacturers of perfumery and cosmetic raw material. He is a graduate of the University of Idaho and has been successively chemist-in-charge of the laboratory of the Tacoma branch of the Pennsylvania Salt Manufacturing Company; sales representative attached to the Seattle office of the L. H. Butcher Company of San Francisco; and an engineer for the Seattle-Tacoma Shipbuilding Corporation, Seattle.

Task group named on lemon oil supply

A task group composed of Percy C. Magnus, president of Magnus, Maybee & Reynard, Inc.; H. P. Wesemann of Fritzsche Brothers, Inc.; Dr. H. J. Kohl of Norda Essential Oil & Chemical Co.; and F. T. Dodge of Dodge & Olcott Co. has been appointed.

It is the duty of the task force to report on possibilities of increasing domestic production of lemon oil, and the possibility of resuming importation from North Africa and Sicily.

Palm-oil production in Belgian Congo

The Bapende territory of the Belgian Congo produced 7,000 tons of palm-oil in 1943. It is stated that this is the best production record of any territory in the country.

Overseas Army Exchange plans using gift catalogue

It is planned to issue Christmas gift catalogues to servicemen overseas from which they may select gifts for friends and relatives in the States. The catalogue will be made up largely of well-known merchandise; names with which the men are familiar. It is believed that such buying will achieve two aims: the protection of servicemen from the necessity of buying expensive, but often inferior, merchandise abroad, and the trouble and expense of shipping packages from overseas.

The announcement from the War Production Board seems to indicate that supplies of materials, containers and cartons will be available, over and above quotas, to fill orders resulting from the Army Exchange Service program.

The selection of items for the catalogue is under the supervision of Major Devoto, Procurement Branch, Special Services Division, Army Exchange Service, 25 West 43 Street, New York, N. Y.

Sidney Picker starts new service

Sidney Picker has resigned as sales and advertising manager of Miners, Inc., New York, N. Y., and has organized a completely integrated national sales organization under the name of National Merchandisers with offices at 565 Fifth Ave. to offer national sales coverage for branded drug and cosmetic products. The marketing research division will be under the direction of Dr. Louis Bader, assistant professor of Marketing in New York University.

Injunction stayed on Flame d'Amour

With reference to the suit of Roger & Gallet against Prince De Bourbon and Dorelis, Inc., appearing on page 83 of our April issue, it appears that although a temporary injunction was granted in the matter against the further use of Flame d'Amour by the district court, an appeal has been taken from the order granting the injunction, and pending the determination of the appeal the injunction has been stayed, or, in other words, suspended. We do not anticipate the appeal to be argued and decided until the Fall.

Lemon oil shipment arrives from Italy

It has been announced that a 100,000-pound shipment of lemon oil has arrived from Sicily. Since lemon oil is regarded as a food the distribution of the shipment is in the hands of WFA. The sale price has not yet been decided, but it is felt that ceiling prices will prevail.

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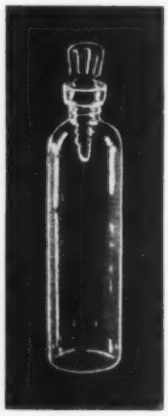

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Cellulose acetate allocation for May increased

Allocations for cosmetic packaging hit a new high for the month of May when the figure reached 670,000 pounds. The weight of cellulose acetate used in preceding months was 232,000 pounds in February, 384,000 in March, 572,000 in April. The jump for the month of April was partially accounted for in the fact that this month, for the first time, scrap was allocated. Previous to this date it had been free. Requests are running around 1,000,000 pounds per month, but it is believed that the actual amount obtainable will level off at about the May figure. With additional uses for plastics in the cosmetics field developing it is probable that cellulose acetate may be tighter, rather than easier, in the future.

American Pharmaceutical meeting

The May meeting of the New York Branch of the American Pharmaceutical Association was held at Columbia University College of Pharmacy, 115 West 68 Street, New York City, on Monday, May 8.

Dr. Cosmo Ligorio, Associate Professor of Chemistry and Physics, Long Island University College of Pharmacy, was the principal speaker.

Hercules Powder Company opens new laboratory

A new insecticide laboratory for biological and chemical testing and control of Thanite, a spray developed through research on turpentine and pine oil, has been opened by Hercules Powder Company in Brunswick, Ga.

Thanite is used against flies, bedbugs, mosquitoes, moths, ants, mites, silver fish, centipedes and spiders.

Carbide & Carbon Chemicals Corp. elects eight vice-presidents

President Joseph G. Davidson of the Carbide and Carbon Chemicals Corp., New York, N. Y., announces the election of the following vice-presidents: H. B. McClure, L. J. Bowditch, W. S. Brackett, H. S. Bunn, G. T. Felbeck, R. N. Graham, G. B. Landes and W. F. Reich, Jr.

Angela Varona moves from Waldorf-Astoria to 400 Park Ave.

Angela Varona, manufacturer of Varona preparations, has removed her salon from the Waldorf-Astoria hotel to 400 Park Ave., New York, N. Y. The new telephone number is Plaza 9-4277.

Proprietary Association of America holds convention

The 62nd annual convention of the Proprietary Association of America was held at the Hotel Biltmore, New York, N. Y., May 15 to May 17.

Pleas for coordination of the activities of government agencies, careful advertising to foster good will, a report on the critical paper shortage, and the situation in vitamin supplies highlighted the session.

James Hill, Jr., was elected president; Dr. Frederick J. Cullen, executive vice-president; Charles P. Tyrrell, secretary-treasurer; Charles Beardsley, honorary vice-president; as was the retiring president, Fred E. Rathburn. Kenneth Bonham and Thomas Singleton were elected members of the executive committee.

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by MAISON G. DENAVARRE, Ph.C., B.S.

Technical Editor of the American Perfumer & Essential Oil Review and of Elaboraciones y Envases, Special Lecturer in Cosmetics, Wayne University, College of Pharmacy, Consulting Chemist

Fourth Installment.

The third installment was published in the preceding issue. Subsequent installments will appear in forthcoming issues.

ACKNOWLEDGMENTS

"Permission to use for comment parts of the text of the National Formulary, Seventh Edition, in this volume has been granted by the Committee on Publications by authority of the Council of the American Pharmaceutical Association."

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CHAPTER IV
(continued)

Physical and Chemical Testing
Gravimetric and Volumetric Methods

THE DRY FILTER-PAPER METHOD

The dry filter-paper method is used in tests of fumigants and of oils that are to be used where moisture is absent. It is similar to the wet filter-paper test, squares of paper being used that have been impregnated as described under the test above, except the squares are dried for two days in a sterile Petri dish in the 37°C incubator. This test can be used successfully only with organisms capable of resisting the drying. *Eberthella typhi* will not withstand the drying. *Staphylococcus aureus* is the usual test organism. The inoculated dried paper squares may be used at any time after drying up to 30 days, but the resistance of the organism at no time should fall so low that it is incapable of withstanding a 1-80 dilution of phenol for five minutes at 20°. It should be noted that control tests with non-medicated squares should always be carried out to test the viability of the test organism. As in the wet filter-paper method, resubcultures are always necessary.

THE AGAR-PLATE METHOD

The agar-plate method is a test for inhibitory properties and is used for substances remaining in contact, with the body in the absence of serous body fluids. Examples of substances which may be tested by this method are salves, dusting powders, creams, plasters, pads, adhesive tape, catgut, and suppositories. The test organism ordinarily used is *Staphylococcus aureus*, but for special purposes the test may be used with any organism capable of grow-

ing on agar. The agar is of the same composition as that described for carrying stock cultures of the test organism.

Fifteen to twenty cubic centimeters of agar is melted and cooled to 42°-45°C. To this is added 0.1 cc of a 24-hour broth culture of the test organism. The inoculated agar is then poured into a sterile Petri plate and allowed to harden. As soon as the agar has hardened, the test substance is placed in intimate contact with the surface of the agar. If a salve, it is first warmed just sufficiently to soften it and thus secure a complete peripheral contact. As a control, warmed sterile petrolatum may be placed on another portion of the plate. The plates are incubated 24-48 hours under unglazed porcelain tops at 37°C and then are examined for evidence of inhibition. If the preparation is antiseptic or inhibitory, a zone of clear agar will be noted around the place where the substance has been in contact and the width of the zone will indicate the diffusibility of the inhibitory (antiseptic) agent. If there is no inhibition, growth of the test organism will be observed adjacent to and even under the test substance.

THE SERUM AGAR-PLATE METHOD

Preparations recommended for use on open wounds, cuts, etc., will be effective only if they exhibit activity in the presence of serous fluids. In testing such preparations the agar-plate method is modified by the addition of 10 per cent sterile horse serum to the agar.

THE AGAR CUP-PLATE METHOD

The agar cup-plate method is merely a variation of the agar-plate method. It is to be used on products liquid at the temperature of the test. The agar or serum agar is inoculated as in the agar-plate method. Before the agar cools, a depression or cup is made in the medium by standing a sterile flat-bottomed glass tube, 1.5 cm in diameter, in the liquified agar. On hardening, the glass tube is removed by slightly twisting and pulling at the same time. Insertion of a sterile wire down the side of the tube for the introduction of air will eliminate much of the cracking of the agar. Another method of preparing the agar cup-plate is to allow the medium to harden and then cut out a disk in the agar, by means of a cork borer, 1.5 cm. in diameter. One or two drops of melted agar are placed in the cup to seal cracks or crevices. After the agar cup-plate is prepared, 6 drops of the liquid to be tested are placed in the cup and the plate incubated under an unglazed porcelain top for 24 to 48 hours. If there is a clear zone about the cup, the substance under test has inhibitory properties. Here, as well as in the agar-plate test, the agar in the clear zone may be tested for growth by subculture in broth to indicate whether the action is germicidal or merely inhibitory.

TESTS IN THE PRESENCE OF ORGANIC MATTER

In general, the tests outlined above will take care of the bulk of the preparations coming to this laboratory. However, special tests may be required to determine the value of products recommended for certain purposes. For instance, recommendations on the label may make advisable the use of various additions of organic matter, such as increased amounts of peptone or the addition of gelatin, blood ascitic fluid, saliva, urine, or feces, depending upon the information desired.

P-12—AN IMPROVED METHOD FOR DETERMINING THE ANTISEPTIC AND BACTERICIDAL POWERS OF GASES AND VAPORS

(J. L. Posner, A. R. Fodor & J. T. Myers, J. Bact., 31, No. 1, 9-10, 1936)

The following method seems simpler and more accurate than any now employed:

Put the reaction mixture in a 50 cc Erlenmeyer flask, stopper, and allow gaseous equilibrium to develop. Pass a bead-headed pin through a cork so it will project about 1.5 inches into the flask. Refold a sheet of lens paper in halves several times; place rough filter paper on top and bottom; and drive a cork borer through with a blow, cutting disks about 11 mm in diameter. Autoclave the disks in a Petri dish and transfer one at a time to a Petri dish containing a broth culture of a test organism, as *Staphylococcus*. After soaking 30 minutes place them with a sterile tweezer between about 10 layers of sterile filter paper. When dry, suspend them, centrally pierced, on the pin, using a number twice that of the desired numbers of transfers, and insert into the prepared flask.

At timed intervals remove cork and disks; insert another stopper; drop one disk into a tube of broth and place another on an agar plate, then remove it; reinsert the cork and disks, for another time exposure.

After 24 to 48 hours incubation at 37°C. the results in the broth cultures give the end point of germicidal action and the plates with decreasing numbers of discrete colonies indicate the rate of destruction.

Work done so far is based on mixture of trioxymethylene and $NaHSO_4$. It should be possible to compare unknown gases with a standard as in phenol coefficient determinations.

P-13—BLUSH RESISTANCE (U.S.I. METHOD)

The blush resistance test is carried out at a temperature of 90°F and at variation of 5 per cent in relative humidity, in a cabinet capable of holding the temperature and relative humidity constant throughout the test.

CABINET

The cabinet is about 3′ x 3′ x 3′ made of wood, lined with plaster board covered with a water resisting paint. Galvanized iron baffles are so placed that the cabinet is divided into a lower and an upper compartment, with an air passage from the top compartment down to a six inch fan in the bottom compartment. Back of the fan is a ¾″ air inlet from the outside of the cabinet and in the upper part of the air passage are two ¾″ air outlets. In front of the fan is a pan containing water or sulfuric acid, as the case may require, over which the air is circulated to obtain the desired relative humidity. The temperature is maintained by electric light bulbs in the bottom compartment and controlled with a thermostat located in the upper compartment. A wet and dry bulb thermometer is placed in the upper compartment to indicate the relative humidity of the circulating air.

In the upper compartment is located a circular rack made of galvanized iron about two feet in diameter, for the purpose of holding glass plates at an angle of about 60°, which is rotated at a rate of about 2 r.p.m. by a slow speed electric motor device mounted as shown in the illustration. In the top of the cabinet, a one-inch hole is suitably located to permit pouring samples onto the glass

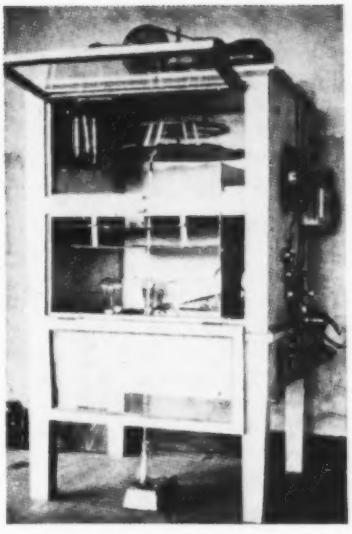


Figure 50. Blush Resistance Cabinet

plates by means of a pipette. The excess part of the sample that runs off the glass plate is allowed to pass through a funnel to the outside of the cabinet.

PROCEDURE

R.S. ½ second nitrocellulose is air dried at room temperature overnight and then dried for a half hour in an oven at 45°-50°C.

A 10 per cent solution (by weight) is made from the dry nitrocellulose and the solvent to be tested.

When the air in the cabinet has been brought to the desired relative humidity and temperature, the nitrocellulose solution is poured on the glass plate and allowed to dry while the rack is being rotated. The films are then examined for blush and classified as clear, slight, medium and heavy blush.

Author's Note: Nail polish films can be tested in a similar manner, without first drying as required for nitrocellulose.

P-14—BOILING OR DISTILLING TEMPERATURES U.S.P.

To determine the temperatures between which an official liquid may boil or the percentage of the material which distills between specified temperatures, use Method I or Method II as directed in the text. The minimum boiling point is the temperature shown by the thermometer when the first 5 drops of the liquid have been collected from the condenser. The maximum boiling point is the temperature at which the last liquid evaporates from the bottom of the flask or when the proportion specified in the text has been collected.

METHOD I

The method is to be used with liquids for which the permissible range in boiling temperate is 5°C or less.

APPARATUS REQUIRED

A distilling bulb from 50- to 60-cc capacity to the lower part of the neck; the length of the neck is from 10 to 12 cm and its internal diameter from 14 to 16 mm. The outlet tubes, of from 10 to 12 cm in length and from 4 to 5 mm internal diameter, is to be attached to the neck approximately its midpoint, forming an angle from 70° to 75° with the lower portion of the neck.

A straight glass condenser with a water jacket from 40 to 60 cm in length; the distance from the upper end of the water jacket to the neck of the bulb being from 18 to 25 cm.

THERMOMETER

In order to avoid the necessity for an emergent stem correction it is advisable that an accurately standardized thermometer of the Anschütz type be used. If such a thermometer is not available, a thermometer of Type I or Type II (U.S.P. XII, page 622) may be employed, applying the emergent stem correction as described under Melting Points (U.S.P.), the length of the emergent stem being expressed as the number of degrees represented on the stem between the lower end of the stopper and the graduation for the highest boiling temperature. When placed in position the top of the bulb of the thermometer is level with the center of the opening of the outlet tube. Provide an asbestos board 12 to 15 cm square and 3 to 5 mm thick, having a circular perforation, located centrally, for the reception of the bulb. The edge of the asbestos around the perforation should be such that when the bulb is set into it the portion of the bulb below the upper surface of the asbestos will have a capacity of from 3 to 4 cc.

PROCEDURE

Place the asbestos board on a tripod or other suitable support. Place in the distilling bulb 25 cc of the liquid to be tested, insert the thermometer, stand the bulb in an upright position in the perforation of the asbestos board, and connect it with the condenser. Then distil the liquid by the application of heat, from a suitable source, at the rate of 1 cc for each 15 to 20 seconds, noting the temperature as soon as 5 drops of the liquid have distilled into the receiver, and when the last liquid evaporates from the bottom of the flask or when the specified percentage has distilled over. Correct the observed temperature readings for any variation in the barometric pressure from the normal (760 mm) by allowing 0.1 degree for each 2.7 mm of variation, adding if the pressure is lower, or subtracting if higher than 760 mm.

NOTE—In order to have the entire volatile portion distil over at the prescribed rate, it is best to make a preliminary distillation of a separate portion of 25 cc of the liquid, during which the source of heat is regulated so that the distillation proceeds at the prescribed rate. Having thus regulated the heat, temporarily remove it. Then clean the bulb, recharge it with a fresh portion of 25 cc of the liquid and conduct a new distillation as described above.

METHOD II

This method is to be used with liquids for which the permissible range in boiling temperature exceeds 5°C.

APPARATUS REQUIRED

A 200-cc distilling bulb with an outlet tube attached about midway of the neck and making an angle of from 70° to 75° with the lower portion of the neck. The length of the neck is from 10 to 12 cm and its inside diameter is from 18 to 24 mm. The length of the outlet tube is

from 10 to 12 cm and its inside diameter from 5 to 6 mm.

Use a straight glass condenser, a thermometer, and an asbestos board as in Method I. The diameter of the perforation in the asbestos board is 50 mm.

PROCEDURE

Place the distilling bulb in an upright position in the perforation in the asbestos board and connect it with the condenser. The outlet tube is to extend from 25 to 35 mm into the condenser beyond the connecting stopper.

Measure 100 cc of the liquid to be tested, using a cylinder having 1 cc graduations. Note the temperature of the liquid, and transfer it as completely as possible to the distilling bulb. Use this cylinder as the receiver for the distillate without rinsing out any of the adhering liquid. Insert the thermometer, connect the distilling bulb with the condenser as described in Method I, and distil by the application of heat, from a suitable source, at the rate of from 4 to 5 cc per minute, collecting the distillate coming over between the temperatures specified in the text. Bring the distillate to the same temperature as that at which the liquid was originally measured, and note its volume. Correct the temperature reading for barometric pressure, and apply the emergent stem correction as described under Melting Points, U.S.P.

Liquids which begin to distill below 80°C are cooled to from 10° to 15°C before measuring the 100 cc for the test. The end of the condensing tube is fitted with an adapter bent at a suitable angle and the end of the adapter is passed through a cork inserted into the receiving cylinder. The cork has a small perforation to permit the exit of air. The receiving cylinder is kept immersed in ice to within 2.5 cm of its height during the distillation.

P-15—CAPSICUM ORGANOLEPTIC BIOASSAY

(James C. Munch, George E. Byers & Harry J. Pratt, J. Amer. Pharm. Assn. 23, 24, 1934)

This method is as follows:

Shake 1 gm of coarsely powdered capsicum with 50 cc of alcohol in a stoppered flask for 3 hours. Dilute 0.1 cc of the clear, supernatant liquid with 100 cc of 10% sucrose solution. Five cc of this dilution swallowed during 5 seconds will produce the same degree of pungency in the throat as 5 cc of 10% sucrose solution containing 16 mg of piperine per liter. In case 16 mg of piperine per liter does not produce satisfactory pungency, the threshold concentration should be determined and corresponding alterations made in the standard for capsicum (0.1 cc per 100 cc or 20 mg per liter).

As standards of pungency threshold concentrations of 400 mg of ginger and 5 mg of oleoresin of ginger per liter are suggested.

P-16—LUND BRISTOL
FORMULA FOR CALCULATING CARTON SIZE

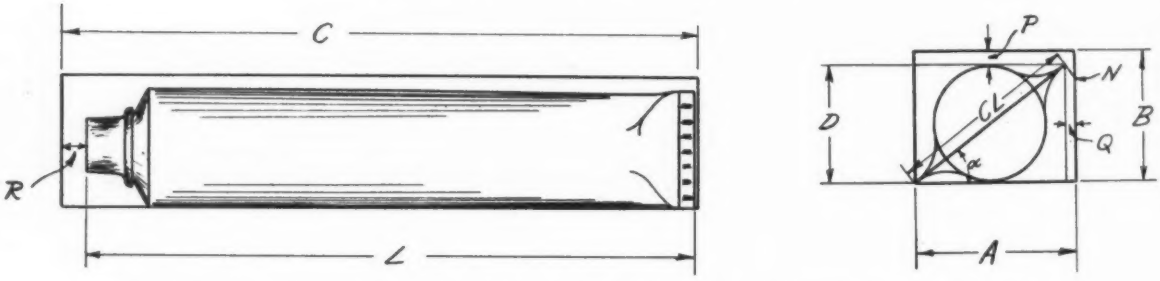


Figure 51. Proposed carton standard specifications for tubes larger than 5/8" diameter inserted at an angle.

D = diameter of tube
CL = width of clip = ½ ¶ D
Q = tolerance in width of carton = 3/32"
P = tolerance in height of carton = 4/32"
N = Approx. position to which clip will fall after tube is inserted in carton
∝ = angle made by clip with bottom of carton
L = length of tube
C = length of carton = L + R
R = tolerance in length of carton = 7/32"

Because there is a fixed relation between the angle ∝ and the vertical height of the clip above the bottom of the carton, *any* tube of *any* diameter inserted at angle ∝ (approx. 37½°) will have a vertical height of the clip equal to the diameter of the tube. Therefore, the standard depth of cartons for tubes inserted at angle ∝ will be

B = depth of carton = D + P = D + 4/32"

Similarly, the relation between the horizontal projection of the clip on the base of the carton and the angle is fixed. The standard width of cartons with tube inserted at angle is determined as follows:

A = width of carton = .7934CL + Q

Inasmuch as the length of the clip CL can be expressed in terms of the diameter D then

A = .7934 . ½ ¶ D + 3/32"

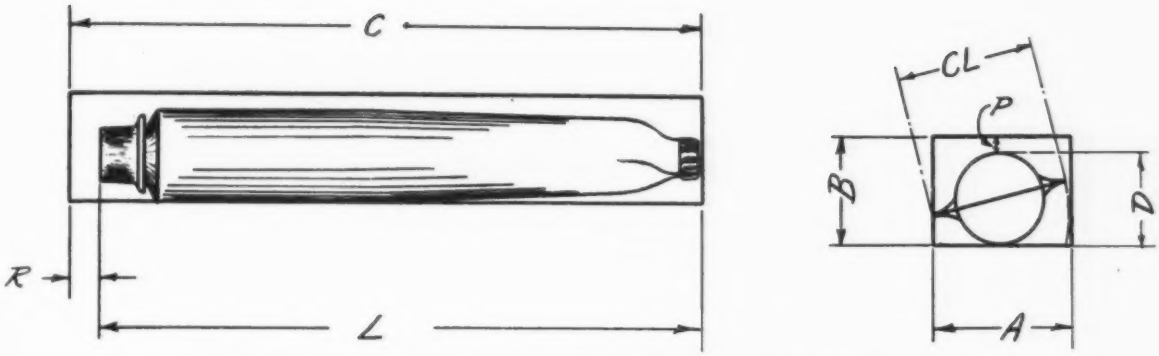


Figure 52. Proposed carton standard specifications for tubes smaller than 5/8" diameter.

C = Carton length
L = Average length of tube
D = Diameter of tube
CL = Width of clip

P = Tolerance in height of carton 4/32"
A = Width of carton CL
B = Height of carton D P
R = Tolerance in length 7/32"

Width of carton = CL
Heighth of carton = D + P
Length of carton = L + R

P-17—CLOUD TEST (AOCS)

Precautions. (1) The Oil must be perfectly dry, because moisture will produce a turbidity before the clouding point is reached.

(2) The oil must be heated to 130°C over a free flame, immediately before making the test.

(3) There must not be too great discrepancy between the temperature of the bath and the clouding point of the oil. An oil that will cloud at the temperature of hydrant water should be tested in a bath of that temperature. An oil that will cloud in a mixture of ice and water should be tested in such a bath. An oil that will not cloud in a bath of ice and water must be tested in a bath of salt, ice, and water.

Determination. Heat the oil in a porcelain casserole over a free flame to 130°C, stirring with the thermometer. As soon as it can be done with safety, transfer the oil to a 115-cc oil bottle, which must be perfectly dry; 45 cc of the oil are sufficient for the test. Place a dry Centigrade thermometer in the oil and cool the bottle by immersion in a suitable bath. Stir the oil constantly with the thermometer, taking care not to remove the thermometer from the oil at any time during the test, in order to avoid stirring air bubbles into the oil. Remove the bottle frequently from the bath for a few moments. The oil must not be allowed to chill on the sides and bottom of the bottle. This is prevented by constant and vigorous stirring with the thermometer. Note the temperature at which the first permanent cloud shows in the body of oil.

With care, results concordant to within 0.5°C can be obtained by this method. The oil must be tested within a short time after heating to 130°C and a re-test must always be preceded by reheating to that temperature. The cloud point should be approached as quickly as possible, yet not so fast that the oil is frozen on the sides or bottom of the bottle before the cloud test is reached. If it is desired to distinguish between cloud due to moisture and cloud due to stearin, test the sample before and after heating to 130°C to remove moisture.

ASTM Cloud and Pour Apparatus

Courtesy Precision Scientific Co.

P-18—COLD TEST FOR OILS

(Pennsylvania Refining Co. Method)

In the A.S.T.M. "cloud test," the temperature of the oil is lowered at a rate of approximately 5 degrees per minute and examination of the oil is made at 5 degree intervals. The "cloud point" is the temperature at which the clouding first appears. Yet an oil showing a "cloud point" of say 15° by this method may actually become opaque or cloudy at 40° if kept at that temperature for many hours. Thus in the case of brilliantines and baby oils left on shipping docks for many hours during winter months, the oil may become so cloudy as to be slushy when first brought in from the cold. Manufacturers are trying to avoid this and are now subjecting their oils to a different test showing up the cloud when oils are subject to low temperatures over extended periods of time. One such test runs over a period of 56 hours.

Place a four-ounce sample of the oil under test in an icebox carefully maintained at 40°F. After eight hours note condition of sample. Reduce temperature to 30°F and keep samples at this point for 24 hours and again observe. Now place samples in the cold box of the refrigerator and keep at 10°F for 24 hours and again ob-

serve sample. If still clear or only faintly cloudy, the oils will meet the cold test.

Courtesy Pennsylvania Refining Co.

Figure 54. Four samples of oil tested by Method P-18 showing only Nos. 1 and 2 as meeting this requirement.

P-19—COLOR OF TALC

(Ralph H. Auch, American Perfumer, p. 245, July, 1933)

The color of talc is of considerable importance, particularly in the case of that used in untinted products such as talcums, dusting, and deodorant powders. Talc varies from a yellowish cast on the one side through a good white to a fairly pronounced dirty gray. A rough comparative test by the unaided eye is of little value. The best quick method consists of forming a small pile of the accepted standard and another of the talc to be tested alongside of it, on a piece of white or blue paper. Then by pushing the heaps close together and flattening them with a spatula so that the contact between the two is a straight line, any difference is more apparent. For closer matching, the talcs may be moistened with turpentine which accentuates any difference in shade. Any difference in colors shows up in every shade of face powder. There have been instances when it has been impossible to match a shade using the same lakes and pigments in a talc different than the one on which the standard shade had been set up. Under those circumstances it has been found necessary to set up a new standard shade or resort to the use of one or more new lakes or pigments or both.

P-20—COLOR FASTNESS OF FACE POWDER

Practically all face powders contain organic color lakes. When in contact with human sweat, hair that has face powder dusted into it, will—under certain conditions—become dyed by the color in the face powder. This tendency is quite great with some face powders and color lakes, especially with light hair. Obviously, colors and powders with the least tendency to stain or dye human hair are the most desirable.

The following test has been devised to determine the fastness of colors. It uses two artificial sweat solutions formulated by the *American Association of Textile Chemists and Colorists.*

ACID SOLUTION	ALKALINE SOLUTION
10 grams sodium chloride	10 grams sodium chloride
1 gram lactic acid USP	4 grams ammonium carbonate U.S.P.
1 gram disodium orthophospate anhydrous	1 gram disodium orthophosphate anhydrous
Distilled water to make 1000 cc	Distilled water to make 1000 cc

PROCEDURE

Place 10 cc of *acid solution* in a 250 cc beaker; place into this solution about 0.25 grams white J&J Lambs Wool, thoroughly wetting the wool. Disperse 1 gram of face powder over the wetted wool, then stir in with a glass stirring rod until the powder is enmeshed between the wool fibers. Place a cover glass over the beaker and incubate at 98°F overnight. Next day wash the wool clean, dry and compare to a blank made at the same time but without powder. There should be only a faint coloration on the wool. Repeat the test with the alkaline solution.

P-21—COLORIMETRIC SOLUTIONS (C.S.) (U.S.P.)

These solutions are used in the preparation of the colorimetric standards for certain drugs, and the carbonization tests with sulfuric acid which are applied to a number of organic compounds in the Pharmacopoeia. These solutions must be accurately standardized as described under the various titles, and must be stored in glass-stoppered bottles made of insoluble glass.

When colors of pharmacopoeial substances or pharmacopoeial test mixtures are to be compared with color standards, the several containers shall be of clear, colorless glass and must be alike in cross section. The comparison of colors must be made in layers of equal thickness, and viewed transversely against a white background.

PREPARATION OF THE PERMANENT COLOR STANDARDS

Cobaltous Chloride Colorimetric Solution. Dissolve about 65 gm of cobaltous chloride, $CoCl_2.6H_2O$, in enough of a mixture of 25 cc of hydrochloric acid and 975 cc of distilled water to make 1000 cc. Place exactly 5 cc of this solution in a 250-cc, glass-stoppered flask, add 5 cc of solution of hydrogen dioxide and 15 cc of sodium hydroxide (1 to 5), boil for 10 minutes, cool, and add 2 gm of potassium iodide and 20 cc of sulfuric acid (1 to 4). When the precipitate has dissolved, titrate the liberated iodine with tenth-normal sodium thiosulfate. Each *cc* of tenth-normal sodium thiosulfate consumed is equivalent to 0.02380 gm of $CoCl_2.6H_2O$. Adjust the final volume of the solution by the addition of enough of the mixture of hydrochloric acid and water to make each *cc* contain 0.05950 gm of $CoCl_2.6H_2O$.

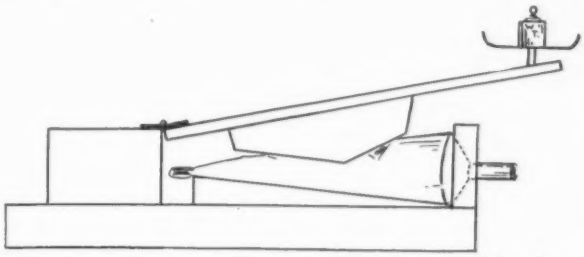
Ferric Chloride Colorimetric Solutions. Dissolve about 55 gm of reagent ferric chloride in enough of a mixture of 25 cc of hydrochloric acid and 975 cc of distilled water to make 1000 cc. Measure exactly 10 cc of the solution into a glass-stoppered flask, add 15 cc of distilled water, and proceed as directed in the assay of *Ferri et Ammonii Citrates,* beginning with "add 5 cc of hydrochloric acid." Each cc of tenth-normal sodium thiosulfate is equivalent to 0.02703 gm of $FeCl_3.6H_2O$. Adjust the final volume of the solution by the addition of enough of the mixture of hydrochloric acid and water to make each *cc* contain 0.04505 gm of $FeCl_3.6H_2O$.

CUPRIC SULFATE COLORIMETRIC SOLUTION. Dissolve about 65 gm of reagent cupric sulfate in enough of a mixture of 25 cc of hydrochloric acid and 975 cc of distilled water to make 1000 cc of solution. Assay exactly 10 cc of this solution as directed under *Cupri Sulfas*, and adjust the final volume of the solution by the addition of enough of the mixture of hyrochloric acid and water to make each *cc* contain 0.06243 gm of $CuSO_4.5H_2O$.

P-22—CONSISTENCY OF FATTY PREPARATIONS

(G. W. Fiero, J. Am. Pharm. Assoc. 29, 18, 1940)

The substance under test is placed in a tin coated collapsible one-ounce tube having a nasal tip and a 4 mm opening. The tube is filled according to actual manufacturing methods, hot or cold, and is placed in the apparatus in Figure 55 which consists of a lever that compresses the

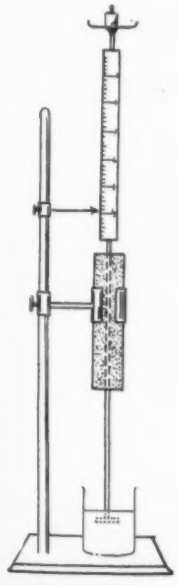


Courtesy Fiero

Figure 55. Compression Consistency Apparatus.

tube while it is held in position by means of a perforated beveled strip. The *relative consistency* is the weight of material which passes through the tip when various weights are placed on the pan at the end of the lever and kept there for a definite length of time.

Another method of checking relative consistency is to measure the resistance of the substance to the passage of a metal disc 1.6 cm in diameter attached to a 44 cm verticle rod with a pan, upon which weights can be placed. (Figure 56). The scale is attached which denotes the degree of penetration attained. A 2-ounce jar of material under test is allowed to come to equilibrium with room temperature. The disc is placed below the surface of the fat. Weights are applied to the pan and the extent of penetration is determined after sixty seconds.



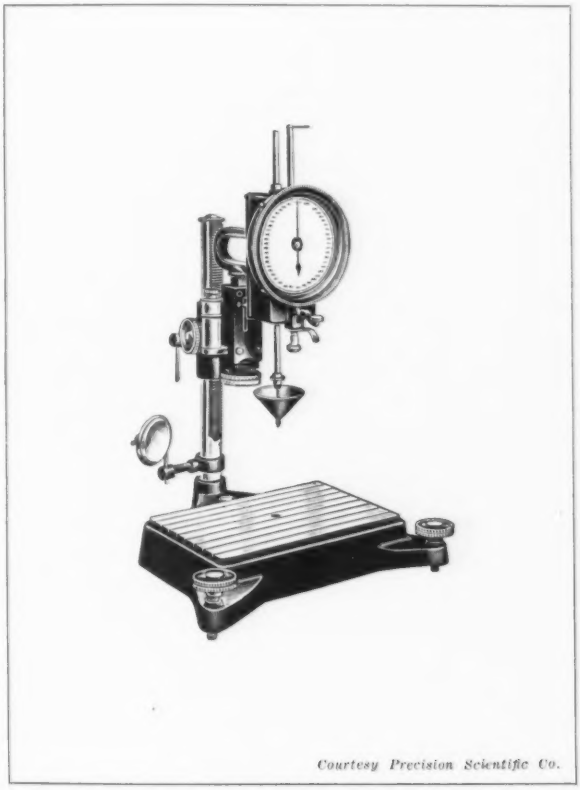
Courtesy Fiero

Figure 56. Penetration Consistency Apparatus

P-23—CONSISTENCY OF PETROLATUM (U.S.P)

Determine the consistency of petrolatum by means of a penetrometer having a scale calibrated in tenths of a millimeter, and a cone constructed of stainless steel or brass, with a detachable hardened steel or stainless steel tip, the outside surface of the cone having a very smooth finish. The tip of the cone shall have an angle of 30°, the point being truncated to a diameter of 0.38 mm ± 0.08 mm. The base of the tip shall be 8.38 mm ± 0.13 mm in diameter, and the length of the tip 15 mm ± 0.25 mm. The remaining portion of the cone shall have an angle of 90°, shall be 28.2 mm in height, and shall have a maximum diameter at the base of 65.1 mm. The total moving weight of the cone shall be 150 Gm.

The vessel containing the petrolatum shall be placed in a bath at a temperature of 25°C ± 0.5° until ready for the determination.



Courtesy Precision Scientific Co.

Figure 57a. Universal Penetrometer.

PROCEDURE

Test all samples of petrolatum for original consistency after melting and cooling to the temperature of the test. Bring the samples to 25°C ± 0.5° before the test. If the sample is initially within 1.5° to 2°C of this temperature, it may be brought to 25°C by placing it in a water bath

for 40 minutes; but if the initial temperature is outside of this range, place the sample in the constant-temperature bath for 1½ hours to obtain the desired temperature. If

"PRECISION" PENETROMETER
1/10 Millimeter Divisions
Serial No.
Range of Penetration
Reproduction of the glass covered dial—4" diameter, large enough for easy reading in rapid routine work, with 380 tenth-millimeter subdivisions corresponding to 38 mm. as compared with 25 mm. on former models. On a total drop of the plunger, the dial pointer makes more than one complete revolution, allowing direct penetration readings to 40 mm.

Figure 57b. Dial of Penetrometer showing 1/10 mm divisions.

the room temperature is more than 1.5° to 2°C from 25°C, close the container tightly to prevent the entrance of water, and immerse the can in the bath for the required period.

In conducting the test, the surface of the sample must be cut level and very smooth with a knife, care being taken not to "work" the surface. Place the can of petrolatum on the penetrometer table, and lower the cone until the tip just touches the top surface of the sample. Watching the shadow of the tip is an aid to accurate setting. Quickly release the plunger and hold it free for 5 seconds. The consistency is indicated by the total penetration as read from the scale.

The total surface area disturbed by the test will have a diameter about equal to the measured depth of penetration. In order to prevent one test from being affected by the disturbed area of a previous test or by the sides of the container, the tip must never be placed nearer the sides of the container or the edge of a previous hole than the penetration distance of that particular sample. The surface must not be smoothed over for subsequent tests. Make five such tests and report the average of the five as the consistency of the petrolatum if the mean deviation does not exceed 3 per cent. If the mean deviation exceeds 3 per cent, report the average of 10 determinations.

P-24—CONSISTENCY OF PLASTIC VEGETABLE FATS A STANDARD MICROPENETRATION TECHNIQUE

(R. O. Feuge & A. E. Bailey, U. S. Department of Agriculture Oil & Soap 21, 78, 1944)

In all cases the fat to be examined is first melted by heating to about 70°C. The bronze blocks are immersed in a tray of cracked ice and water to almost their entire depth until they are thoroughly chilled. When the melted sample has cooled to about 50°C, it is poured into the chilled blocks. Care is taken to have a drop of fat projecting above the block surface, to provide for shrinkage in the fat on cooling. It is found that the temperature of the fat when poured into the blocks is not critical, and could be varied within reasonable limits without appreciable effect on the micropenetrations.

Since it is convenient to allow the samples to chill overnight, most of the tests are carried out with a chilling time of approximately 16 hours in ice water. A chilling period of this duration is apparently sufficient to produce a condition of equilibrium in the fat. In some of the experiments, in order to investigate the feasibility of accelerating the test, the chilling period is considerably shortened.

At the end of the chilling period the solidified samples are immediately transferred to a thermostatically controlled water bath for tempering to the proper temperatures for the actual penetration measurements. The usual procedure is to place the entire series of blocks in the bath at the lowest temperature employed (10°C), and then increase the temperature of the bath step-wise, removing a block for measurement after a proper tempering period at each successively increasing temperature. In this way each sample examined is not only tempered at the temperature of examination, but is also subjected to corresponding tempering periods at each of the previous lower temperature levels.

Before the needle is dropped (Figure 58) into the tempered sample, the surface of the latter is scraped off even with the sample block by means of a spatula or other

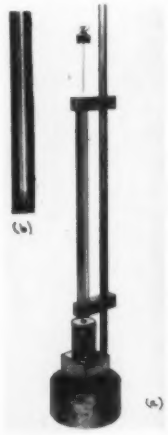


Figure 58. Micropenetration apparatus ready to use.

sharp straight edge. The scraping edge is inclined so that it makes an angle of about 45° with the block surface on the side toward which it is traveling. Very hard samples must be cut away carefully, in small portions, in order to avoid cracking and pitting the cut surface. The heat capacity of the blocks is sufficient to maintain the temperature of the sample reasonably well while the determination is being made, but if the room temperature is markedly different from that of the sample, the determination should be made promptly. If the fat is relatively firm, several successive penetration measurements can easily be made on the sample contained in a single sample block. At higher penetrations the entrance of the needle is inclined to disturb the entire sample, and succeeding measurements will be erroneously high. It is important for the needle to strike 1.0 to 1.5 mm from the edge of the sample hole, as

the hardness of the sample varies with its distance from the chilling surface.

Penetrations are recorded in terms of one-tenth millimeter units. At penetrations of 100 or below, duplicate measurements will usually agree within about 2 units. At penetrations approaching the extreme range of the instrument (about 375) the difference between duplicate determinations may be as much as 5 units.

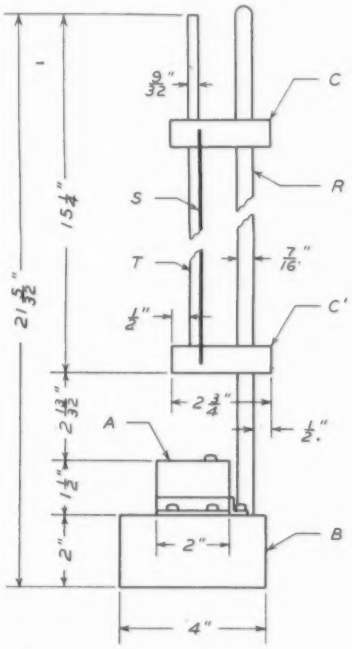


Figure 59. Dimensions and structural details of the Micropenetrometer

A QUICK MICROPENETRATION TECHNIQUE FOR THE CONTROL OF HYDROGENATED PRODUCTS

A rapid modification of the standard micropenetration method may be used for controlling the hydrogenation process. It has been found that consistent micropenetrations can be obtained on hydrogenated oils of the approximate consistency of shortening or margarine, in the temperature range of 20 to 25°C if the chilling and tempering times are reduced to 15 minutes each.

The so-called "quick" micropenetrations thus obtained are not identical with the regular micropenetrations, but they bear a definite relationship to the latter.

P-25—FEDERAL STANDARD SHAVING CREAM CONSISTENCY

(FFF-C-641—Sept. 23, 1938)

C-2a. Lather cream, class A, shall be a soft, uniform cream or paste free from free alkali. It shall be of such consistency that it will not flow from the tube without pressure, not require undue pressure to extrude it, and not lose its form when extruded from the tube. It shall distribute well into the bristles of a shaving brush and shall yield a heavy, creamy lather that will remain moist upon the face until the shaving is completed. The material shall conform to the requirements set forth in paragraphs D-1 and E-1.

C-2b. Brushless cream, class B, shall be a soft, uniform cream or paste free from free alkali. It shall remain soft in the tube and shall spread easily. The material shall conform to the requirements set forth in paragraphs D-2 and E-2.

D-2c. Consistency. Shall be as stated in paragraphs C-2a and C-2b. When the packed tubes are kept at a temperature of 32°C (90°F) for 24 hours and then at a temperature of 15°C (59°F) for 24 hours, the material at the end of each 24-hour period shall on the application of slight pressure extrude from the tube as a smooth mass without any notable change in consistency and without any hardening or separation of the ingredients.

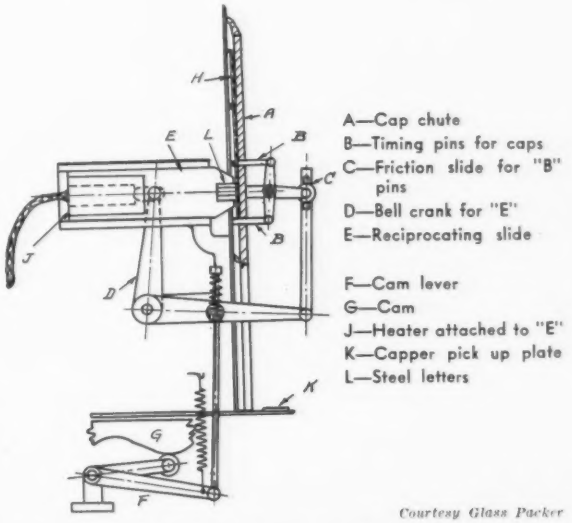
P-26—DATING ON THE CAP LINER

(J. M. Kaudse, Glass Packer, p. 323, May, 1936)

Dating of packages has been practiced so many years that there is no need to discuss its uses and advantages. These are well known to most manufacturers. However, there exists some variety of methods for indicating the date, and some differences of opinion as to the best method. The mechanical device illustrated herewith is designed automatically to stamp the date on the liners of screw or lug caps, a method which has certain advantages over others now in use. This device, (Figure 60) designed by the author, has been in use for several years in the plant of the Bristol-Myers Co., Hillside, N. J., large manufacturer of drug products and toilet articles, and has proven satisfactory for its purpose. Following is a description of the mechanism and its operation:

A steel dating stamp with interchangeable figures is mounted on a reciprocating slide. The slide is operated by a lever, which, in turn, is operated by a bell crank connected through a lever motion which works off a cam attached under the pick-up plate of the capping machine. The entire device is mounted on the chute of a standard fully automatic screw capper. Caps are prevented from falling down out of time by a set of timing pins operated through friction slides off the cam lever. Caps are stamped one at a time as they pass down the chute to the pick-up plate.

Of course, the nature of the cap liner is an important factor in determining the kind of impression made by the



Courtesy Glass Packer

Figure 60. Cap Dating Device

dating stamp. The product first dated with this device had a wax board liner. We therefore attached a 75-watt electric heating unit to the reciprocating slide which holds the steel figures. This made the numbers just hot enough to give a clean cut figure in the wax-impregnated liner and to prevent clogging the numbers with wax. It may be remarked in passing that this has no adverse effect on the sealing qualities of the liner, since the figures do not penetrate deeply enough to cause any danger of piercing the liner.

Where other than wax board liners are used, the heating unit can be eliminated, and the impression made by pressure alone.

This method of dating is, of course, designed for use in connection with fully automatic cappers, since the dater is attached on the chute which leads from hopper to pick-up plate. Advantages of the method are that the number is concealed and does not deface or mark any visible part of the package. It is simple and automatic. No ink is required, and little or no attention from the operator except the changing of the steel dating figures.

P-27—DENSITY APPARENT

(Scott Volumeter Method)

The Scott Volumeter shown in Figure 61 is a device for determining the weight of one cubic inch of dry pigments. It is a measure of the fluffiness of the pigment and of its bulking density.

The apparatus consists of a large funnel with a metal screen that supports bolting cloth used in sifting the pigment. Immediately beneath is a smaller funnel that directs the sifted pigment into a box containing a series of glass baffles that regulate the fall of pigment. Another funnel at the bottom directs the pigment into the cubic inch receiver. (A metal box having a capacity of exactly one cubic inch, usually supplied with a counter weight.)

Using such an instrument, the pigment sifts into the cubic inch container under a constant head, thus assuring that the receiver is packed in the same manner each time. The weight of the pigment can be recorded as so many ounces or grams per cubic inch or it may be compared to some standard pigment or any other substance.

The Scott Volumeter Method of determining apparent density has numerous modifications. A special deviation from the above procedure may be foreseen by the individual technician.

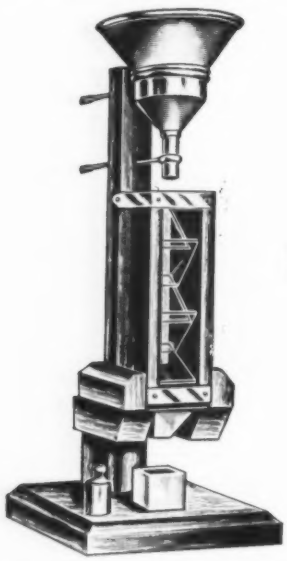


Figure 61. Scott Volumeter for measuring the weight of 1 cubic inch of dry powder.

Courtesy Eberbach & Son Co., Inc.

P-28—DENSITY OR BULKINESS OF METAL STEARATE

(Metasap Method)

Place 10 grams in a 100-cc graduate—note the volume. Tap sixty times on a rubber surface and record the diminished volume. This gives a rough indication of particle size and shape.

P-29—APPARENT DENSITY OF FINE POWDERS

(T.G.A. METHOD No. 12)

Apparatus

Dropping Box.

250 ml graduated cylinder. The thickness of the foot does not materially affect the result of the test.

Stopwatch.

Procedure

1. 40 grams of the material are carefully weighed and sifted through 60 mesh screen to fluff powder, and transferred (not poured) into a 250 ml graduated cylinder. See Note (a).
2. Stopper the cylinder with a rubber stopper and allow to drop 50 times through a distance limited by the dimensions of the dropping box described under Apparatus. Do not use a greater speed than 30 drops per minute. Drop at 2 second intervals, timing by means of a stopwatch. See Note (b). Lift the cylinder slowly and carefully, without jarring, between drops.

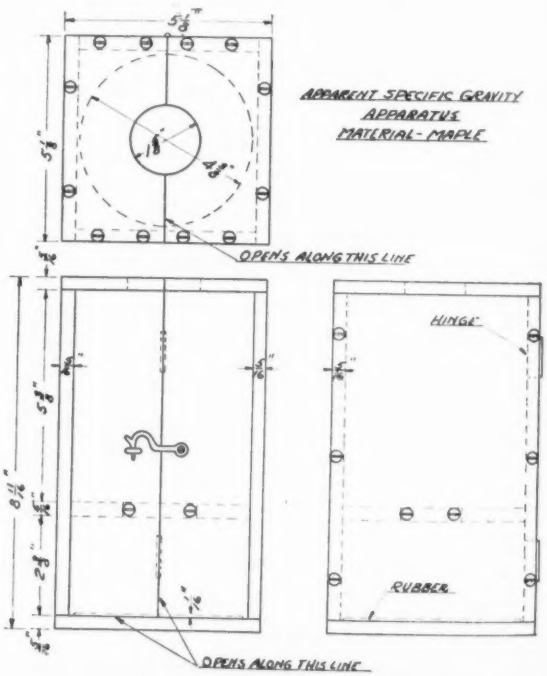


Figure 62. Specific Gravity apparatus

3. Read the volume occupied by the material. See Note (c).

Calculation

$$\frac{\text{Weight of Sample in Grams (Step 1)}}{\text{Final Volume in ml (Step 3)}} = \text{Apparent Density}$$

Notes

(a) If 40 grams of the material is more than 250 ml in volume, a smaller weight such as 30 grams may be taken for the determination.

(b) Proper timing of the dropping is very essential to obtain comparable results.

(c) In determining the Apparent Density of very fine powders, such as Toluidine Toner, it has been found advisable to read the volume after the cylinder has been dropped fifty times as directed above, then continue the dropping a second fifty times and again read the volume. Continue this procedure until the volume remains constant after dropping fifty times. Calculate the apparent density as directed above.

(d) Before determining the Apparent Density of materials such as Precipitated Chalk and DiCalcium Phosphate about 100 to 200 grams of the powder is placed in a bowl or glass beaker and vigorously fluffed with an egg beater. The fluffing operation should be continued until the Apparent Density, as determined on several successive samples of the fluffed powder, becomes constant. Five minutes vigorous fluffing of the sample is usually all that is required.

P-30—DENSITY—STURGE METHOD

This consists briefly in subjecting a prepared sample of chalk powder to standardize compressive forces and measuring the final volume.

Apparatus Required

1. Standard sieve of about 8 in. diameter and made from brass wire cloth, 30 mesh to the linear inch.
2. A pair of scales—Beranger's pattern-weighing accurately to ¼ gm and fitted with 7 in. pans.
3. Metronome adjusted to tick seconds.
4. Standard 250 cc graduated cylinder and bung, the whole weighing 240 gms. Length of scale 22-24 cms.
5. Standard dropping box giving a 1 in. drop.
6. Table of densities. (Table #4.)

Procedure

A portion of the chalk under examination is sifted through the standard sieve on to a piece of paper about 10 in. by 7 in., the material being rubbed through by the fingers protected with rubber finger-stalls. This sifted chalk will appear light and feathery, and when sufficient has been prepared, 40 grams are weighed out upon the scale. The paper is now picked up, formed into a chute, and the chalk upon it slipped into the standard cylinder smoothly and without jerking. This procedure is made easier if the paper is allowed to lie between the thumb and fingers, upon the palm of the right hand. If the cylinder is now picked up in the left hand, inclined somewhat, and the paper introduced for about 1 in. into the cylinder-top at 45°, the chalk may be easily transferred without spilling. Any tendency towards sticking may be overcome by gently tapping the bottom end of the chute with the little finger of the right hand. On no account must the cylinder be knocked or jolted during the filling. The bung having been fitted, the cylinder is placed in the dropping-box, and the door closed (the box should be a firm fixture upon the table). The seconds counter having previously been started, the actual "dropping" may be immediately commenced. The thumb and forefinger of the right hand are used to lift the cylinder gently through the dropping distance, and then to release it. This alternative "lift" and "release" movement is made on every beat of the metronome, so that the cylinder falls once every two seconds. Care should be taken to see that the full "drop" is given, while at the same time any violent impact against the upward stop must be avoided. A gentle circular motion should be given during the lifting, since this will secure a level final surface to the chalk and will facilitate the reading of the graduation. As soon as 50 drops are completed, the cylinder is removed and the chalk volume read; reference to the table provided will then given the density directly.

No difficulty will be experienced in obtaining exact repeat results if careful attention is always paid to details. The limits of accuracy of the test in experienced hands are probably 1 cc of volume. *It is most important that*

(a) There should be no squeezing of chalk during the filling of the cylinder and no tapping of cylinder at this stage.

(b) No interference should occur by vibration from an external source.

Table 4

TABLE OF DENSITIES

For Use With P-30, Density Sturge Method

VOL. CCS	DENSITY	VOL. CCS	DENSITY	VOL. CCS	DENSITY
146	356	109	477	72	722
145	358	108	481	71	733
144	360	107	486	70	743
143	363	106	490	69	754
142	366	105	495	68	765
141	368	104	500	67	776
140	371	103	505	66	788
139	373	102	510	65	800
138	376	101	515	64	813
137	379	100	520	63	825
136	382	99	525	62	838
135	385	98	530	61	850
134	388	97	536	60	866
133	391	96	542	59	882
132	394	95	547	58	898
131	397	94	553	57	914
130	400	93	559	56	930
129	403	92	565	55	946
128	406	91	571	54	962
127	410	90	577	53	980
126	414	89	584	52	1000
125	417	88	590	51	1020
124	420	87	598	50	1040
123	423	86	605	49	1061
122	426	85	612	48	1083
121	431	84	619	47	1106
120	434	83	626	46	1130
119	437	82	634	45	1155
118	441	81	642	44	1181
117	444	80	650	43	1209
116	448	79	658	42	1238
115	452	78	666	41	1268
114	456	77	675	40	1300
113	460	76	684	39	1330
112	464	75	693	38	1368
111	468	74	703	37	1398
110	473	73	712		

(c) There should be no shock against the upward stop on lifting.

(d) The cylinder should be smartly released at the conclusion of the "lift" movement, and should fall quite freely.

P-31—DEPILATING TIME

There is no standard method of determining depilating time although it has been suggested that horse hair of uniform diameter be used for such a test. Since the diameter of horse hair varies considerably, such a test is invalid.

About the only way to determine depilating time, is to shave both forearms of 10 human subjects, allow the hair to grow for a definite number of days so that all hair is more or less uniform in length. To one arm apply the depilatory in even sized patches about an inch apart. Four or five such patches can be easily applied to the arm. After five minutes contact, start to wash off one patch at a time, two minutes apart. Thus in a series of four patches, the first would be removed in 5 minutes, the second one in 7 minutes, the third in 9 minutes and the fourth in 11 minutes. Suppose all the hair was easily removed in 9 minutes.

This rough test eliminates the high and low figures. The test is repeated on the other arm, similarly shaved and allowed to grow out to the desired length. Make only three patches on this arm. This time, the test will start at 8½ minutes for the first removal, and every half minute for each succeeding patch, through 9½ minutes. The exact time of depilation can thus be determined.

Summarize the tests among the ten subjects and average the results. The subjects may be all blonds or all brunettes or equally divided. Be sure to use the same batch of depilatory in all tests. Develop a uniform application and removal technic to avoid inaccuracy in contact time.

P-32—DETERGENCY, FIERO'S METHOD AND APPARATUS FOR DETERMINING RELATIVE EFFICIENCY OF SOAPS

(J. Am. Pharm. Assoc. 28, 284, 1939)

Apparatus

In order to determine the relative soil of the cloth employed in the washing tests, a photoelectric photometer was devised. This consisted of, as illustrated in Fig. 63, a photoelectric cell (Weston Photronic Cell No. 594) mounted in a box opposite a tubular 100 watt projection bulb. The two were separated by a partition of insulating material extending to within 1 cm of the top of the container. This partition was movable so that optimum reflection could be obtained and then firmly fixed in this position. In order that the illumination from the bulb be identical in the tests, the voltage of the current was measured at each experiment and adjusted uniformly. The temperature was kept uniform by means of a fan near the top of the bulb which removed the warm air from both the bulb and the cell. The cell was connected in series with a microammeter so that the amount of current produced could be measured.

In order to test the extent of soil of a sample of cloth, it was folded longitudinally and held firmly across the opening above the bulb and the cell so that light would be reflected to the cell and the extent of reflected light measured as microamperes. The extent of soil would be indicated by the relative amount of light absorbed. A clean cloth was taken as standard for 0% soil and a photographic plate cover was used as a standard for 100% soil. The difference in microamperes between the two readings was divided by 100 to give data in percent. While this is not exactly correct, for practical purposes it gave a readily obtainable measure of relative extent of soil. This apparatus has certain advantages over optical photometers in that it is less expensive and that a larger surface of soiled cloth is measured with each determination.

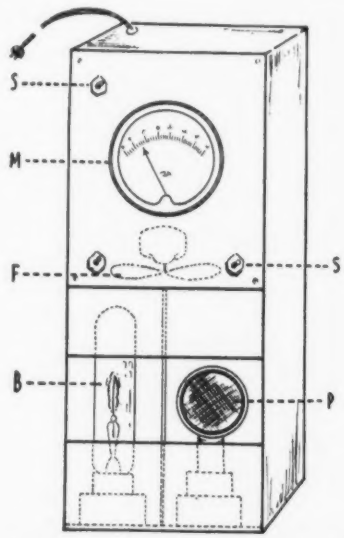


Figure 63. Photoelectric Photometer. B—projection bulb; P—photoelectric cell; M—microammeter; F—fan; S—switch

The apparatus for washing the cloth consisted of four wide mouth ("Mason") jars held in an aluminum frame within the agitator of a *Whirldry* miniature washing machine. The temperature was maintained by means of warm water filling the tank and covering the jars. The bottles moved over an arc of 90° and completed oscillation 80 times per minute.

Experimental

Recently ironed white cotton cloth (thread count 80 x 80 per inch), 6 x 9 inches, was soiled with artificial soil mixture, dried at 80°C for one hour, aged overnight, ironed with a low-heat iron and the extent of soil determined. Eight readings were taken with each cloth so as to cover a large area of both sides. Two samples were placed in 200 cc of a one per cent solution of the triethanolamine salt and washed for 10 minutes at 45°C. The cloth was removed, rinsed in distilled water three times, partially dried on bibulous paper, placed in oven at 80° for one hour and finally dried in air for 30 minutes. The cloth was then ironed and the extent of soil determined. The soil mixture (2) consisted of:

Lamp Black	2 Gm
Liquid Petrolatum, heavy	5 Gm
Tallow	3 Gm
Carbon Tetrachloride	2000 cc

Chapter IV continues in subsequent issue

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